# the Skeptical Inquirer

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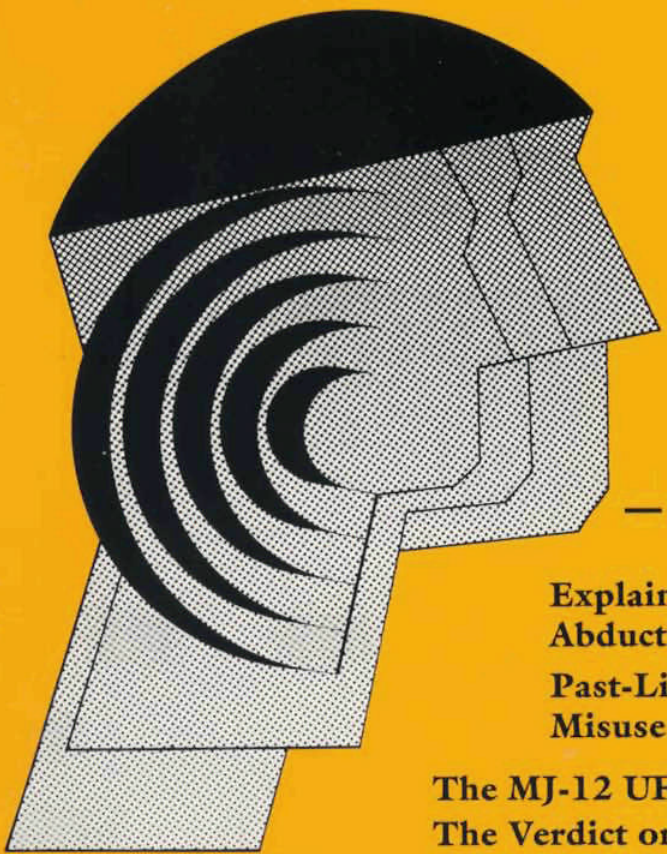

*— also —*

Explaining Alien-Abduction Fantasies

Past-Life Regression: Misuse of Hypnosis

The MJ-12 UFO Documents

The Verdict on Creationism

Published by the Committee for the Scientific Investigation of Claims of the Paranormal
Vol. XII No. 2 Winter 1987-88

# the Skeptical Inquirer

THE SKEPTICAL INQUIRER is the official journal of the Committee for the Scientific Investigation of Claims of the Paranormal.



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# News and Comment

## Harmonic Convergence: Peace, Harmony, and Cosmobabble

THE HARMONIC Convergence is now safely in the past, and it appears its main effect was to enliven an otherwise dull August.

To some the weekend-long gathering at special "sacred sites" around the world was nothing more or less than a summer festival of celebration, an expression of good will, good feelings, and an appeal for peace, harmony, and understanding.

To others, including growing bands of New Age believers, it had far more cosmic connotations. This special astral-planetary significance, elusive to the non-indoctrinated, was ballyhooed far and wide in the puzzling language of Shirley-speak and psychocosmobabble.

"The Harmonic Convergence signals a phase shift—marking the passage from a collective determination to view things from a perspective of conflict to a collective determination to view things from a perspective of cooperation," according to the event's guru, historian/author/millennialist José Arguelles. This "planetary renaissance" represents an "awakening from a cultural trance" extending back to the time of the Atlantean culture. The change would be experienced as "a vibrational ripple, momentarily dissolving the current mental frame and evoking a release of archetypal memories."

The core minimum requirement for the phase shift to occur, said Arguelles, "is the creation and consolidation of a human battery of no less than 144,000 individuals all linked together through resonant attunement." This cadre "represents the minimum human voltage necessary to leap the imagination of 11 percent—or a 550 million minimum critical mass of humanity—into the significant turnaround stage for establishing the infrastructure of a new world order. These 144,000 humans, the equivalent of the Hundredth Monkey, are a resonating core whose number signifies the harmonic of light—144."

The timing of the event drew on Arguelles's interpretations of the Mayan and Aztec calendars. There was also much talk of the earth slipping out of its time beam, special planetary alignments, and predictions of massive UFO sightings.

The jargon and silliness helped obscure a well-meaning idealistic vision of, in one organizer's words, "a world of beauty and sophistication, of harmony and balance."

No one quite knew what to make of it all. The event was a natural for the media and received copious news and feature coverage. To the media's credit it was treated with a certain sense of detachment, humor, and bemusement (Doonesbury cartoonist Gary Trudeau gently parodied it for two weeks, before and after), and its pseudoscientific overlay was properly questioned and critiqued.

At the national level, for example,

## About this Issue

The articles appearing in this issue of the SKEPTICAL INQUIRER complement one another in happy and serendipitous ways.

Psychologist Robert A. Baker's article, "The Aliens Among Us," applies the insights of anomalistic psychology to understanding one particular kind of subjective experience much in the news and the bookstores this past year—claims of abductions by aliens. He describes the phenomenon of confabulation, the prevalence of fantasy-prone personalities, and the roles of near-awake hallucinations. He also shows how the "missing time" experience so often reported in these stories is in fact a quite ordinary and universal human experience. Psychophysiologist Barry Beyerstein's article, "The Brain and Consciousness," reports on the insights offered by modern brain science for understanding anomalous subjective experiences —and for evaluating claims of ESP and past-life or prebirth experiences. A theme woven throughout these articles is how hypnotic regression causes an indistinguishable mixture of fact and fantasy.

Psychologist Nicholas Spanos then casts a critical eye on reports of previous lives by hypnotically regressed subjects. Here too he shows how a misunderstanding of hypnosis has lent undeserved credence to stories in which fantasy, imagination, and suggestion play important roles. Stage-performer Peter J. Reveen then illustrates the same point about fantasizing and make-believe under hypnosis with a report of his experiences with volunteers on his own stage.

Aerospace journalist Philip J. Klass's special report on the Majestic-12 crashed-saucer documents deals with another aspect of the belief in alien visitations. This one is perhaps more pernicious because of the strong evidence of a conscious hoax involving creation of false "government documents."

Finally scientist Stephen Jay Gould, in "The Verdict on Creationism," shows that victories over political movements to force the teaching of pseudoscience can be won, and that the many heroes in this confrontation include the nation's science teachers.

the *New York Times* checked the Mayan matters with Yale Maya expert Michael Coe. He dismissed Arguelles's predictions as "totally crackpot." The *Los Angeles Times* gave nearly a page and a half to the event in its August 12 issue, but its coverage included critical comments from numerous specialists. A Cornell University Maya expert said there was no indication even in Mayan lore that things would change before the end of the Mayan grand cycle in 2012. A Peabody Museum Mayanist said Arguelles's "theories are truly out to lunch, and I'm being polite." A Sante Fe cultural anthropologist said: "The idea that the Maya were supernatural technocrats who came from a higher dimension and left us with this information . . . well, you can find a similar story in almost any mythology in any culture in the world." A Caltech seismologist, asked about bizarre assertions concerning interactions of earth's resonant frequencies with pollutants, said, "It sounds like garbage to me." *USA Today* contacted the Smithsonian Astrophysical Observatory and was told: "There is no scientific basis for any claims

of supernatural or superphenomenal activities. . . . This is typical summer madness."

Local and regional newspapers did much the same. New Mexico's Chaco Canyon was one of the designated sacred sites. The *Albuquerque Journal* checked with a Meso-American expert in the University of New Mexico's anthropology department, who said the August 16 and 17 dates were the product of manipulated data and "concocted" Mayan calendars. *Journal* columnist Jim Arnholz asked the question he found of most burning importance: "After it's all over, will the White Sox still be buried in last place?"

Many news organizations contacted CSICOP. *USA Today* carried a statement by CSICOP's Barry Karr. It summed things up rather well: "On one level, the notion of Harmonic Convergence is a beautiful idea, the joining together of multitudes of people, all concentrating on the very noble desire for peace and harmony. On another level, it can be quite disturbing when you realize . . . these people have given up on the real world. They are turning their backs on scientific and technological progress to help find the solution to the problems facing the world. Instead, they are merely wishing these problems away by looking for some universal energy force or enlightened beings from outer space to make the world a better place to live."

—*Kendrick Frazier*

## Occult Authors Owe MacLaine A Real Debt of Gratitude

BOOK PUBLISHERS and booksellers know that the showing of a television miniseries generally revitalizes sales of the book on which the series is based. *Out on a Limb,* the sensational miniseries aired last spring on ABC, based on Shirley MacLaine's autobiographical book of the same name, was no exception. Even more interesting in MacLaine's case was the strength of what publishers call the "pull along" effect: a sudden rise in sales of books connected in some way with the miniseries.

National bookstore chain B. Dalton featured *Out on a Limb* on the cover of its newsletter. As a result, reports *Publishers Weekly,* "the entire genre of occult and metaphysical books experienced a 95% jump." The trade magazine quotes Bantam Books publisher Linda Grey's comment that the successful miniseries put all four of MacLaine's books back on the best-seller lists.

Perhaps the most astonishing example of the "pull along" effect is *A Dweller on Two Planets* by Phylos. This was the book that started MacLaine on her spiritual quest when it literally fell on her head, as shown in the miniseries. Harper & Row, the book's publisher, reports that *Dweller* had been selling steadily at a rate of 1,500 copies a year. In the first week following the miniseries, 2,000 orders for the book were received from bookstores around the country.

—*Lys Ann Shore*

## New Items on Occult Bookshelf

WHAT ARE the liveliest trends in the occult? Book publishers are betting on the future of channeling as well as more traditional dependables like astrology and spiritualism. Publishers' fall lists included such titles as *A State of Mind* by J. Z. Knight (Warner Books) and *Channeling: The Intuitive Connection* by William H. Kautz and Melanie A. Branon (Harper & Row).

From West Coast publisher J. P. Tarcher comes still another channeling book, *Channeling: Investigations on Receiving Information from Paranormal Sources,* by Jon Klimo.

Advance publicity hailed Knight's book as "the true account of one of America's most celebrated spiritual leaders"; Knight, of course, claims to be the "channel" for Ramtha, a 35,000-year-old warrior spirit from Atlantis. Kautz and Branon's book on channeling is described by its publisher as a "comprehensive book" that "provides the information necessary for readers to discover their intuitive powers and connect with unseen spiritual forces."

Author Klimo described his book as a guide to "the communication of information to or through a physically embodied human being from a source . . . on some level or dimension of reality other than the physical as we know it." A teacher at San Francisco's Rosebridge Graduate School, Klimo identifies famous names, from Moses and Merlin to Nostradamus and Edgar Cayce, as channels.

Prentice-Hall's new *Zolar's Book of the Spirits* includes a how-to section on contacting the spirit world.

Finally, Holt announced publication of *Psychic Animals* by Denis Bardens. Excerpts were to appear, appropriately, in the *National Enquirer.*

*—Lys Ann Shore*

## The Books of Eric J. Dingwall, Student of 'Queer Customs'

A BOOK LOVER'S library is an autobiography, describing the interests, travels, and career of its owner. The late Eric John Dingwall, the noted psychical researcher who died in 1986 at the age of 96, began collecting books during his college years at England's Cambridge University. Several hundred volumes from his personal and professional library were sold at auction in March by Bloomsbury Book Auctions of London. The collection featured books on spiritualism and psychical research, but also included works on anthropology, conjuring, demonology, erotology, ghosts, hypnotism, medicine, and telepathy.

The range of the collection gives an accurate idea of Dingwall's interests. He began his career as an investigator of psychic phenomena in 1921, when he became director of the Department of Physical Phenomena at the American Society for Psychical Research in New York. For the next two decades, he traveled throughout the United States, Europe, and the West Indies investigating paranormal phenomena, especially the claims of mediums. During World War II, Dingwall worked for the British Ministry of Information. After the war, he became an honorary assistant keeper at the British Museum in London, cataloging its collection of erotic literature—a project he continued to work on until he was well into his eighties.

As a result of his experiences as a psychic investigator Dingwall developed an interest in conjuring and eventually became a vice-president of the Magic Circle. In his entry in *Who's Who,* Dingwall described his recreation as "studying rare and queer customs." Over the years, he wrote several books, including *How to Go to a Medium* (1927), *Ghosts and Spirits in the Ancient World* (1930), *Some Human Oddities* (1947), and *The Haunting of Borley Rectory* (1956). He was

joint editor in 1922 of *Revelations of a Spirit Medium.* More recently, he collaborated on the four-volume *Abnormal Hypnotic Phenomena,* published in 1967-68.

The sale of Dingwall's library "attracted a great deal of interest," according to Lord John Kerr of Bloomsbury Book Auctions. Pre-sale publicity, he says, resulted in requests for catalogues from many people in addition to Bloomsbury's regular mailing list. An article in the *Times Literary Supplement* before the sale had predicted that it might "attract some unexpected attention from buyers interested in the occult." Describing the collection as "a very curious accumulation," the article noted that, although it contained "few outstanding items," such a collection "would undoubtedly be very hard to put together again."

About 70 people turned out for the auction on March 12. Bidding was "very buoyant," according to Lord John. The auction dispersed the collection into the hands of several dozen buyers, many of them bookshops and antiquarian book dealers.

Overall, prices were high, frequently rising above the estimates listed in the auction catalogue. For instance, a lot containing the *Short-Title Catalogue of Works on Psychical Research, Spiritualism, Magic . . . Witchcraft and Technical Works for the Scientific Investigation of Alleged Abnormal Phenomena . . . ,* by Harry Price, fetched nearly three times its estimate (it sold for more than $200). Another book by Price, *Leaves from a Psychist's Case-Book,* formed part of a lot that sold for more than $250, double the estimated price. The author had inscribed the book "To Dr. E. J. Dingwall, who will thoroughly disapprove of most of what is written herein."

The highest-priced items in the auction were three lots of journals—the *Proceedings* and *Journal* of the Society for Psychical Research and *The Zoist,* a mesmerist journal. The two lots of SPR publications each sold for about $1,500; *The Zoist* for about $1,000. These prices were triple the pre-sale estimates. Another lot that proved highly desirable contained several of Sir Arthur Conan Doyle's works on spiritualism; estimated to bring $100 or less, the lot sold for more than $600.

*—Lys Ann Shore*

*Lys Ann Shore is a writer and editor in Socorro, New Mexico, who closely follows events in the world of books.*

## Computer Teleconference On Pseudoscience, Paranormal

SEVERAL SKEPTICS recently met in the Science and Math Forum of CompuServe for a computer teleconference on pseudoscience and the paranormal. Participants included conference organizer Emory Kimbrough, a physics teacher and magician; Roger Cooke, a professor of mathematics at the University of Vermont; A. N. Valle, head of the physics department and director of the computation center at LaGrange College; and Tom LeCompte, a graduate student in physics at Northwestern University.

The date chosen for this conference, June 25, 1987, proved fortunate because it was shortly after the U.S. Supreme Court decision on the Louisiana creationism case, and it was the day after Ted Koppel's "Nightline" news program featured a debate on the recent recurrence of public interest in UFOs. These topics stimulated well over an hour of lively discussion, and the participants agreed that the computer teleconference is an excellent medium for timely discussion of paranormal issues.

This timeliness coupled with the opportunity for two-way conversation makes participation in such conferences an excellent complement to a subscription to a quarterly publication like the SKEP-

TICAL INQUIRER; thus, we are planning to meet on the last Tuesday of each month at 9:30 P.M. Eastern Time, and we invite all readers of *SI* to join us.

All that is required to participate is any modem-equipped computer and a CompuServe I.D. Visit any computer store or call CompuServe at 1-800-848-8199 for information on how to obtain an I.D. In most areas, access to CompuServe is available through a local phone number, and since our conferences are after 6:00 P.M. in all time zones, the CompuServe fees are quite reasonable. After connecting with CompuServe at the scheduled time of our conference, type "GO SCIENCE" (without the quotation marks) at any prompt. After the Science and Math Forum menu appears, type "CO" (again without the quotes) and you will be in the conference. For more information write to Emory Kimbrough, 1346-B Stonehenge Road, Montgomery, AL 36117, or send electronic mail on CompuServe to 72777,1553.

—*Emory Kimbrough*

## Canada's Supreme Court Rules Against Fortune-Teller

IN THE MIDST of its usual diet of constitutional disputes, murder cases, and important civil litigation, the Supreme Court of Canada recently found time to consider Section 323 of the Criminal Code of Canada, which makes fortune-telling, in some circumstances, a crime.[1] This section reads as follows:

> 323. Every one who fraudulently . . . (b) undertakes, for a consideration, to tell fortunes . . . is guilty of an offence punishable on summary conviction.

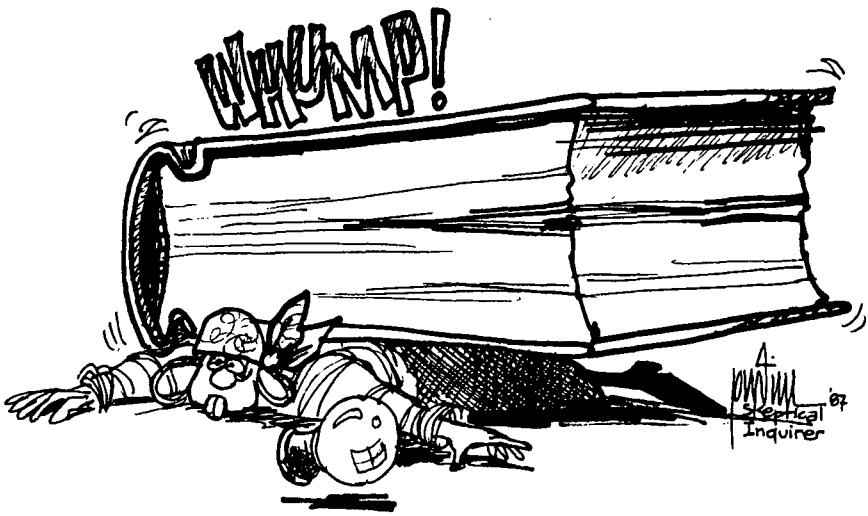
The curious thing is that only "fraudulent" fortune-telling is made criminal by this provision. When is a fortune-teller acting fraudulently?

In everyday usage Alvin Tofler and the others who extrapolate into the future on the basis of present data, or evangelists who foretell the future based on prophecies in the Bible, or who describe what might happen if people do not mend their ways, are not called "fortune-tellers," even if they are irresponsible or mad. Fortune-telling, by definition, is based on methods "not ordinarily considered to have a rational basis,"[2] such as interpretations of the patterns of stars, playing cards, tea leaves, scattered salt, handwriting, contours of the skull, and the lines on the palm of the hand.

This list would make it seem that *all* fortune-tellers are fraudulent. Some, however, obviously believe they have the required powers, whether supernatural or merely inspired. If fraud implies deliberate misrepresentation, how can they be said to be fraudulent? If this were the approach to be taken, then trials of fortune-tellers would center on their beliefs, and the sincere ones would get off. It would not be a question of truly possessing powers, but only of *thinking* one possessed them. And what a job to prove in court, beyond a reasonable doubt, that a crystal-ball reader does not believe what he says. The defense of honest belief strikes many of us as too easy, with the predictable result that fortune-telling might flourish.

It could be worse. If the courts decided that there were *genuine* fortune-tellers, i.e., those who possessed real powers of foretelling, then the criminals would be those who did not possess them but pretended to. The burden on the prosecution, then, would be to prove, beyond a reasonable doubt, that the accused did not possess powers!

Surprisingly perhaps, some of the Quebec courts have taken another view altogether, one much more damaging for the class of fortune-tellers, namely, that fortune-telling is nonfraudulent only when it is done as mere entertainment. Against this position, the Supreme Court




of Canada has left the door open for the defense of honest belief.

What happened in the case that came before the Supreme Court is this. On August 3, 1978, an investigator from the Montreal police force, Robert Tremblay, visited the apartment of a clairvoyant named Lucette Labrosse. Labrosse asked Tremblay to tell her about himself, and he told her a story invented for the purpose. After ascertaining his astrological sign, and after having him cut a deck of cards several times, she made some remarkably specific predictions: that he would get married and have two children, that at the age of about 50 he would have kidney problems, and that one of his coworkers would have an accident. She also advised him not to accept a job offer he had received but rather to keep his present job at the James Bay hydroelectric project. For all of this information Tremblay paid only $15.

Shortly thereafter Labrosse was formally charged with fraudulent fortune-telling. At her trial before the Montreal Municipal Court she admitted that she had foretold the future, for payment, but denied that she had done so fraudulently. Three of her satisfied clients, a journalist, a cook, and an unemployed nurse, told the Municipal Court that she had accurately predicted future events on the basis of card-reading and palmistry. Among the correctly predicted events were the kidnapping of a child by his or her mother, the death of a mother living in France, and the birth of two children. The defense, then, was that not only did she truly believe she had powers of prediction but she truly had those powers.

The chief judge of the Municipal Court, Mr. Justice Tourangeau, apparently a hard-core skeptic, found her guilty from the bench,[3] and fined her $100. In an oral judgment he said that "the accused knows full well that she has no basis for her claim to be able to predict what will happen in people's futures," and "the fact of claiming to find in cards or in the lines of a hand the unforeseen occurrence of events of which a person has no knowledge whatsoever, is absolutely without scientific foundation."[4]

Tracing the history of Section 323, Mr. Justice Tourangeau pointed out that before 1954 the word *fraudulently* did not appear in the Criminal Code and that it was added after people had been convicted of fortune-telling just for entertainment, for example, at fairs and amusement parks. The word was added, he said, "to provide for persons who would carry on the business of fortune-telling by ex-

ploiting the credulity and naiveté of many people, [of whom] there are unfortunately far too many in society."

Labrosse instructed her lawyer to appeal this decision. As permitted by the Criminal Code, there was a new trial, before a higher court, the Quebec Superior Court. Again Labrosse admitted she had foretold Tremblay's fortune and had charged him for it, but denied having acted fraudulently. In a very brief judgment, the Superior Court judge agreed with her that no proof had been made of any fraudulent utterances and accordingly reversed the verdict of the Municipal Court and acquitted her.[5] Although the judge does not say it explicitly, the clear implication is that only some predictions are fraudulent; it would have been interesting to know which ones.

The prosecution appealed the Superior Court's judgment to the Court of Appeal of Quebec. Here the parties' lawyers argued the case before a three-man tribunal, and for the first time the judges discussed the questions of law in some detail. In a split decision,[6] the court reversed the decision of the Superior Court and restored the conviction imposed by the Municipal Court. Both majority judges asserted that in fortune-telling the fraud is in the pretext, not in the prediction. As Mr. Justice Bernier put it, referring to the Superior Court judgment, "Fraud does not lie in the falsity of the utterances in predictions but in the acts and things done and remarks made to make one believe in the power to know and predict the future." What was necessary for a conviction, according to the other majority judge, Mr. Justice Mayrand, was proof that the accused "acted in a fashion to make others believe that she possessed the power or gift" of divination. Of this proof there was an abundance.

Labrosse then appealed the judgment to the Supreme Court of Canada. Unfortunately for those of us in the legal profession who would have preferred a definitive statement of the law, the Supreme Court could scarcely have been more laconic: "Given the finding of fact by the trial judge that [translation] 'the accused knows full well that she has no basis for her claim to be able to predict what will happen in the people's futures,' we are agreed that the defence of honest belief is not open on the facts of this case." The door, therefore, is open to such a defense in the future.

One of the side effects of this litigation was that, during the nine years it took to be decided, the City of Montreal did not prosecute fortune-tellers. Since the Supreme Court judgment came down, the practice of fortune-telling has continued, apparently because there have been few complaints from Montrealers. Fortune-tellers in Montreal openly advertise their services.

Interestingly, British skeptics have recently reported that the Home Office is considering repealing Section 4 of the 1824 Vagrancy Act, which makes a crime of "pretending or professing to tell fortunes . . . to deceive or impose on any of His Majesty's subjects."[7]

—*Robert S. Carswell*

## Notes

1. *Labrosse* vs. *The Queen,* 1987, 1 [S.C.R.] 310.
2. *Encyclopaedia Britannica,* 1986 edition, vol. 4, p. 895.
3. File No. 18-902 of the Montreal Municipal Court. The judgment is unreported. The transcription of the oral judgment can be found in an annex to the joint record in the Court of Appeal.
4. The quoted sentences (with the exception of the last one in this article) are unofficial translations from the French.
5. File No. 36-016-80.
6. File No. 500-10-000082-816.
7. See *British & Irish Skeptic,* vol. 1, no. 3, pg. 13.

*Robert S. Carswell is a solicitor with the Montreal law firm of Byers, Casgrain, Barristers and Solicitors.*

## The Colossus and the Clairvoyant

THE QUEST had the aura of the epic about it. The Colossus of Rhodes, after all, was one of the Seven Wonders of the World. The 98-foot bronze statue straddled the harbor at the Greek island of Rhodes from 380 B.C. until felled by an earthquake in 225 B.C.

Nowadays Rhodes is not as prosperous as its hotel keepers would like. A search for the Colossus might increase tourist interest and restore a sense of class.

Ann Dankbaar, a Dutch-born Australian clairvoyant, had been brought to Rhodes by a local travel agent. She claimed she could "see" the Colossus 700 yards outside the harbor in deep water. She pinpointed the spot. Eager to help the lagging island economies, Stathis Alexandris, Greece's merchant navy minister, supported her theories.

The search got under way, and within a short time divers found, and a dredge hauled up, a one-ton hunk of limestone. It was a giant fist, or so enthusiasts said, apparently broken off from the raised arm of the Colossus. Its grooves marked the fingers of a left hand that had once held a torch.

Although the dredged-up "fist" was not of bronze and was not hollow as Pliny had said the limbs of the statue were, these discrepancies were downplayed in the excitement. The object was put under armed guard. Greek procedures for handling antiquities were not followed. Alexandris kept the ministry of culture's archaeologists from viewing it and called a press conference. The find was heralded to the world.

At this point, Melina Mercouri, the Greek minister of culture, stepped in. Her office is responsible for monitoring archaeological research in Greece. Bringing archaeologists with her, she flew into Rhodes on July 7.

The experts took a quick look and pronounced their verdict. The fist was "an ordinary rock." Moreover, the grooves on the stone exactly fitted the teeth of a mechanical digger used to clear the harbor of Rhodes three years earlier. Unwanted chunks of limestone had then been dumped into the sea outside the harbor.

The stone's grooves were thus dated circa A.D. 1984.

"Unfortunately, it is not the Colossus but a stone object," Mercouri told reporters. "We must tell the truth even if it hurts." She added that this is what happens when archaeological research is not left to the archaeologists.

"We cannot," she said, "rely on fortune-tellers."

—*K.F.*

## Society for Scientific Exploration Meets, Elects New Officers

THE FIVE-YEAR-OLD Society for Scientific Exploration recently elected new officers. Its founder, Peter A. Sturrock, professor of space science and astrophysics at Stanford University, was elected president. Yervant Terzian, professor and chairman of the Department of Astronomy, Cornell University, was elected vice-president. Laurence W. Fredrick, professor of astronomy, University of Virginia, was named secretary. Elected to the Council were Robert Jahn (Princeton University), Henry A. Bauer (Virginia Polytechnic Institute), Harold Puthoff (Center for Advanced Study, Austin), and Jessica Utts (University of California, Davis).

SSE was established in 1982 "for the study of anomalous phenomena." Members of the Society have interests in a wide range of topics that tend to fall outside of established scientific disciplines. These include cryptozoology (the study

of strange animals, such as Bigfoot), parapsychology, and the problems posed by UFO reports.

The Society says it takes no position concerning the reality of any of these phenomena but simply serves as a forum for the presentation and discussion of evidence collected and presented in a responsible manner. While its membership is composed almost entirely of scientists and scholars with doctorates, it is probably fair to say that the most active among them tend to be interested in the search for positive scientific evidence of the phenomena in question and critical of the scientific community for not giving enough serious attention to the subject. Nevertheless, some CSICOP Fellows have been, or are, associated with SSE.

Speakers at SSE's 1987 meeting included Henry Bauer on "Evidence for the Loch Ness Monster," Suitbert Ertel on "An Assessment of the Mars Effect," Richard Hoover on "The Stones of Sachsayhauman," Robert Morris on "The Role of Observers in Communication Anomalies," Thornton Page on "The CIA Robertson Panel on the UFO Problem," Hal Puthoff on "One Hundred Years of Remote Viewing," John Schuessler on "The Cash-Landrum UFO Case," Stephen Schwartz and Randall DeMattei on "Infrared Properties of Water in a Therapeutic Context," and Yervant Terzian on "The Nature of Time."

## Putting French Wines To the Pyramid Test

SOME SMALL-SCALE models of Egypt's Great Pyramid of Cheops are supposed to generate "form waves" that, although unknown to physicists, can preserve meat, sharpen old razor blades, and even cure cancer. France is renowned for its good wines, so the most appreciated power of these form waves is the acceleration of the wines' aging process. If a wine is put inside a certain model of the pyramid, according to this lore, in two weeks' time it can grow as old as if it were kept for many years in a cellar. It thus obtains a higher degree of gustatory and olfactory qualities and a greater commercial value. Since the aging of wine implies a delay in its sale and additional storage expenses, it is easy to understand that some wine producers and traders are fascinated by the offers of model pyramid manufacturers.

The French Committee for the Scientific Investigation of Paranormal Phenomena (CFEPP) had planned for some time to test these alleged powers of the pyramid. The experiments were to be conducted double-blind, with neither the servers nor the tasters knowing what was being tasted.

The "Salon of the Unusual" at the International Fair held in the city of Lille in November 1986 provided the opportunity for such an experiment. In addition to lecturers and panels representing all sides of paranormal phenomena, the visitors were invited to attend demonstrations of the pyramid's strange capabilities. A big plexiglas model of the Great Pyramid was set up by Pierre de Carello, a well-known specialist in pyramidology. Seven bottles of wine less than two years old were placed inside the model. They were supposed to age in a few days because of the virtues of the famous "form waves." Seven other bottles of the exact same wine were put into the office of the president of the Fair to wait patiently for the last day of the Salon, when they would be tasted along with the seven bottles in the pyramid by members of the Wine-Waiters' Association of the North of France.

Informed of the test when it was already in progress, one of the secretaries of the CFEPP, Dominique Caudron, persuaded the organizers to use the double-blind method. On the designated day, he controlled the tasting experiment himself. Four bottles of red wine, one of

white wine, and two of champagne were withdrawn from the pyramid. These and the "control" bottles from the president's office were each wrapped in thin aluminum foil and randomly numbered by a computer.

All of the bottles were arranged at the proper height so the tasters could look at them against the light, smell them, and taste them. The tasters then ranked each wine on a scale of 1 to 4 according to their visual aspect, their taste, and their aroma ("bouquet"). Each taster ranked each wine by number on separate pieces of paper, which were then placed in front of the matching numbers of each bottle. The tasting done, these data were inserted in the memory of a computer and safeguarded on a diskette.

At this point, the marks given to the pyramid wines as well as those given to the "control" wines were to be compared. If the bottles in the first group had notably higher marks, it would support the claim of "pyramid power."

The computer made the chi-square statistical test, which shows the probability due to chance. The computer then announced the final results. For the pyramid wines, the average mark was 2.43; and for the controls, 2.24. So, statistically, the pyramidologist was triumphant. But quite oddly he then contributed to his own defeat.

Not satisfied with such a meager difference, he claimed that the experiment had not been accurate enough. He regretted that the white wine and the champagne were put in the competition, because according to pyramidological science the aging effect is supposed to work only with red wine.

So the entire process was repeated, but conducted separately for red wine and white wine. Victory then changed sides. The computer showed that the difference between the two samples was too weak to have any (meaningful) significance. And, even if it had, it would not be favorable to the pyramid. The red wines kept in the pyramid had an average mark of 2.49; and the control wines, 2.56. Such a difference would be due to chance six out of seven times.

How did it happen that the result of the first experiment was favorable to the wine from the pyramid? The answer is simple: It is because of the bottles of champagne. Those coming from the pyramid had only a tolerable result, 2.39 (quite near the 2.3 mark of the white wine that was with them). But the two control bottles of champagne had a much lower score, 1.65. The probability of such a difference being due to chance is only 1 in 9 million.

The explanation could probably be found in the differences of temperature and air circulation between the pyramid and the president's cozy office. It was not that the pyramid champagne had improved; rather, the control champagne had got worse.

The scientific lesson of all this is that (1) the pyramid model has no influence on any kind of wine and (2) for those who may not know it, champagne must be kept cool and served icy.

—*Michel Rouzé*

*Michel Rouzé is a secretary of the French Committee for the Scientific Investigation of Paranormal Phenomena.*

## Trends in Popular Media: Credulity Still Reigns

THE EDUCATION Subcommittee of CSICOP kept track of the paranormal claims made in the popular print media in 1986. As in 1985, members of the subcommittee clipped material from newspapers, magazines, newsletters, and pamphlets (tabloids were not included) and circulated them among other members. While we cannot claim that our

TABLE 1
Topics Covered in Our Sample
Of Print Media Material

| Topic | # | % |
|---|---|---|
| Scientific Creationism | 75 | 24 |
| Religion, general | 46 | 15 |
| General pseudoscience | 22 | 7 |
| ESP | 19 | 6 |
| Scientific responses | 17 | 6 |
| Crank archaeology | 15 | 5 |
| Ghosts | 14 | 5 |
| Crank medicine | 12 | 4 |
| Astrology | 8 | 3 |
| UFOs | 7 | 2 |
| Shroud of Turin | 7 | 2 |
| Perpetual motion | 4 | 1 |
| Ancient astronauts | 2 | 1 |
| Dowsing | 2 | 1 |
| Other | 57 | 19 |
| (N = 307) | | |

sample was entirely representative, the 307 items that passed through our "daisy chain" generated some interesting statistics concerning current popularity levels of various paranormal claims.

Most of the items circulated were newspaper articles (65 percent), a smaller percentage were magazine pieces (12 percent), and the rest were articles from newsletters, pamphlets, published letters, book reviews, and advertisements.

The topics covered in the "daisy chain" items are presented in Table 1. The numbers shown are remarkably close matches to the figures generated by our 1985 material. (See *SI*, Summer 1986, p. 293.) For both 1985 and 1986, creationism was the most popular topic (22 percent in 1985 and 24 percent in 1986). There was a relatively large drop in ESP-related pieces (12 percent in 1985 and only 6 percent of the 1986 sample).

TABLE 2
Approach Used in Our Samples of Print Media Material

| Topic | Skeptical | Credulous | Neutral | Not Applicable |
|---|---|---|---|---|
| | % | % | % | % |
| Scientific Creationism (N = 75) | 37 | 31 | 24 | 8 |
| Religion, general (N = 46) | 4 | 24 | 65 | 7 |
| General pseudoscience (N = 22) | 50 | 20 | 25 | 5 |
| ESP (N = 19) | 26 | 47 | 26 | - |
| Scientific responses (N = 17) | 29 | - | 61 | 12 |
| Crank archaeology (N = 15) | 13 | 60 | 20 | 7 |
| Ghosts (N = 14) | 31 | 39 | 23 | 8 |
| Crank medicine (N = 12) | 25 | 41 | 33 | - |
| Astrology (N = 8) | 13 | 50 | 25 | 13 |
| UFOs (N = 7) | 14 | 71 | 14 | - |
| Shroud of Turin (N = 7) | 14 | 57 | 29 | - |
| Perpetual motion (N = 4) | 25 | 50 | 25 | - |
| Ancient astronauts (N = 2) | - | 50 | 50 | - |
| Dowsing (N = 2) | - | 100 | - | - |
| Other (N = 57) | 30 | 39 | 16 | 16 |
| Inclusive (N = 307) | 26 | 36 | 31 | 8 |

Items related to general religious claims showed an increase from 11 percent in 1985 to 15 percent in 1986. There were more articles about ghosts (2 percent in 1985; 5 percent in 1986) and fewer about dowsing (5 percent in 1985; 2 percent in 1986). All of the other topics listed in Table 1 exhibited percentages that were within one or two points of their 1985 levels.

Table 2 shows a breakdown of approach (skeptical, credulous, neutral, not applicable) employed in the items that passed through the chain. As in 1985, a credulous approach was the most popular. Forty percent of the 1985 items can be fairly characterized as credulous. In 1986 this dropped to about 36 percent. In 1985 about 28 percent of the items and in 1986 about 26 percent used a skeptical approach. Neutral coverage characterized 27 percent of the 1985 items and 31 percent of 1986 items.

We can safely say that popular print media did not become more scientific in dealing with paranormal claims between 1985 and 1986. While there was some ebb and flow in topic coverage, these differences were relatively minor. The Education Subcommittee will continue its monitoring of print media in 1987. I claim no psychic intuition when I predict that this year will be little better than the past two.

—*Ken Feder*

*Ken Feder is in the Department of Anthropology, Central Connecticut State University, New Britain.*

## A Double Failure By German Astrologer

ASTROLOGERS OFTEN criticize empirical tests of astrological claims for considering only sun signs instead of more complex astrological aspects. A recent investigation in Germany has met with this criticism. It is noteworthy for both its results and the author's interpretation of them.

P. Niehenke performed this investigation and submitted a report on it as his doctoral dissertation (psychology) at the University of Freiburg. A short version has been published in the astrological journal *Meridian* (3[1984]:3-9. Niehenke collected 3,259 questionnaires and calculated the horoscope of each of the respondents—only about 2,100 could give an exact, certified date of birth.

The questionnaire consisted of one German standard personality questionnaire (FPI: Freiburger Persönlichkeitsinventar; 212 questions) and almost 300 questions asking for the self-perceived correctness of the astrological predictions, adding up to about 500 questions altogether. An example of the latter is: "You are a very suspicious person" (No. 414). With about 1.6 million responses and 2 million items of data from the 3,259 horoscopes (i.e., about 600 astrological constellations per horoscope), Niehenke tested an abundance of astrological predictions. He also looked for correlations not yet incorporated into the body of astrological "knowledge." With so many tests to perform there is a well-known problem, inflation of alpha-errors—i.e., a number of statistical tests can be expected to be significant by chance alone. How serious this problem is can be seen in Niehenke's data: He found 46 statistically significant correlations just from the total of 425 for the relationship between the astrological sun-Saturn angle constellation and responses from the questionnaire.

Niehenke did not fall into the trap of interpreting the small subgroup of significant correlations and forgetting about all others. He used a method called "cross validation," which takes one half of the data to generate hypotheses and the other half to test them. If more hypotheses than

can be expected by chance alone survive this procedure, there is reason for more than a trivial explanation. Niehenke drew a complete blank: "Contradicting the expectations . . . not interpretable . . . no reasonable result . . . again no success."

That was unimpeachable science so far. However, this result, as expected as it may be for a reader of the SKEPTICAL INQUIRER, came as a big surprise for Niehenke. He is an astrologer by profession and chairman of one of the German astrological societies (Deutscher Astrologen Verband).

Now we turn to the second facet of his report: How does Niehenke deal with the results contradicting his expectations? He has a problem now. First, there is the scientific evidence, which he bravely defends against unfounded criticisms of the thou-shalt-not-single-out-predictions type. Second, there is his personal evidence: "I experience every day that the interpretation of the horoscope allows deep insights into human nature" (p. 8). His solution is to take refuge in "two contradictory realities," a well-known "sleight of mind." But he knows that here he has left the domain of science, and he concludes his article. "[If astrology does not critically test its tenets then it] becomes a kind of religion, a question of faith! But why not? One surely need not worry about astrology and its survival even with more negative results upcoming. A world in which astrology is true is once and for all a more beautiful world than one in which astrology does not exist. . . . The want for astrology to be true, therefore, is much stronger than all rational counterproofs. . . ." (p. 9). I fear his last sentence is plainly true.

Niehenke thus has failed in two ways. First, he has failed to find empirical corroboration for his hypotheses in a carefully conducted investigation. Second, he has failed to live up to his empirical standard in his handling of the unwelcome findings.

—*Wolfgang Hell*

*Wolfgang Hell is on the Psychology Faculty, University of Konstanz, West Germany.*

**The Far Side** by Gary Larson

"There it is again – a feeling that in a past life I was someone named Shirley MacLaine."

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MARTIN GARDNER

# Notes of a Fringe-Watcher

## Irving Kristol and the Facts of Life

FUNDAMENTALISTS all consider Genesis an accurate account of how God created the universe in six days, a process that culminated in forming Adam out of the dust, then fashioning Eve from one of Adam's ribs. (Can you think of a myth more insulting to women than one explaining how Eve was created as a "helpmeet" by putting Adam to sleep and then fabricating her from one of her husband's minor bones?) Fundamentalists differ, however, over many details of the Genesis account, especially over whether its "days" were 24 hours or whether they were long patches of time.

The "young earthers" argue that the entire universe was created in six literal days about ten thousand years ago and that fossils are records of life destroyed by the great Deluge. Because light is coming to us from stars that are millions of light-years away, young-earthers must assume that God created light waves "on the way" from stars and galaxies that did not exist when the light was created.

It is amusing to note that this difficulty about light is similar to difficulties about traces in plants and animals of their past histories. Did Adam and Eve have belly buttons? For centuries there were furious debates among Bible scholars over this weighty question, as well as over hundreds of other features of living things that imply a nonexistent past: rings of trees, chambers of the nautilus, laminae on a turtle's carapace, tusks of elephants, human hair, teeth, fingernails, and so on. It was evident that, if God created the universe in six literal days, he had to create plants and animals "on the way" from a past they never had.

British zoologist Philip Gosse, father of the writer Edmund Gosse, had a bizarre inspiration. Why not extend this "on the way" notion to the fossil record? Just as God created light on the way from nonexistent stars, so he created an ongoing universe with records of prehistoric life that never existed. Gosse wrote a marvelous book about this called *Omphalos,* the Greek word for navel. "It may be objected," he argued, "that to assume the world to have been created with fossil skeletons in its crust—skeletons of animals that never really existed—is to charge the Creator with forming objects whose sole purpose was to deceive us. The reply is obvious. Were the concentric timber-rings of a created tree formed merely to deceive? Was the navel of the created man intended to deceive him into the persuasion that he had a parent?"

As I pointed out in my *Fads and Fallacies* (Dover, 1952), Gosse even considered coprolite, or fossilized excrement. Does not dinosaur coprolite prove that dinosaurs once roamed the earth? No more, Gosse countered, than the existence of waste matter in the intestines of Adam

and Eve, and the chyle and chyme that result from food intakes and which are essential components of blood. I find Gosse's reasoning so flawless that I often wonder why modern creationists refuse to embrace it. Incidentally, a few of today's physicists, smitten by the subjective aspects of quantum mechanics, come dangerously close to Gosse's vision by denying that the universe was "real" before minds had evolved to observe it.

Another ingenious way to harmonize science and Genesis is the so-called gap theory. According to Ronald Numbers, in his splendid history, *Creation by Natural Law* (University of Washington Press, 1977), the gap conjecture was first advanced in 1814 by the Scottish "old earth" theologian Thomas Chalmers. In England it was promoted by Oxford geologist William Buckland, and in the United States by Edward Hitchcock, a Congregationalist minister and president of Amherst College (see his 1840 textbook *Elementary Geology*). During the pre-Darwinian period of the 1830s and 1840s, Numbers tells us, the gap theory was the most widely held way of squaring Genesis with the fossil record. It got a tremendous boost in 1909 when another Congregationalist minister, the American fundamentalist Cyrus Ingerson Scofield, defended gapism in his note on Genesis 1:1 in the enormously influential *Scofield Reference Bible.* This is an annotated Bible still greatly admired by fundamentalists.

According to the gap theory, a vast stretch of time elapsed between the first and second verses of Genesis. "In the beginning God created the heaven and the earth." This included at least one creation, perhaps more, of plant and animal life on earth. God destroyed the pre-Adamic creation, leading to the second verse: "And the earth was without form and void. . . ." Then about ten thousand years ago he started over again, replenishing the earth in the manner described in Genesis. You don't have to be puzzled over why Noah didn't take two dinosaurs of each species on his Ark. It wasn't because they were too big, but because they no longer existed.

Among today's self-declared Bible experts, the Pentecostal televangelist Jimmy Swaggart is the loudest drum-beater for the gap theory. If you write to Jimmy Swaggart Ministries, Baton Route, LA 70821, you can buy his booklet *The Pre-Adamic Creation and Evolution* (1986) or his cassette tapes with the same title. According to Swaggart, scientists are right in their estimates of the advanced age of the earth. Before the creation described in Genesis, our planet was the domain of Satan and the angels. When the devil fell, dragging one-third of the angelic hosts with him (how did Jimmy arrive at *that* fraction?), God utterly destroyed this creation. Fossils are not records of life buried by the Flood, as young-earthers maintain. They are records of pre-Adamic life.

Like other old-earth gapists, Swaggart believes that the Adamic creation took place in six 24-hour days. "Evolution," he thunders in his booklet, "is a bankrupt speculative philosophy, not a scientific fact. Only a spiritually bankrupt society could ever believe it." Only atheists, he goes on to say, could accept this Satanic theory.

Like his brother fundamentalists, Swaggart here reveals an ignorance so total that it could only spring from a monstrous ego, a sin of pride that renders him incapable of learning even the most elementary facts of biology and geology. Evolution is as much a fact as the earth turning on its axis and going around the sun. At one time this was called the Copernican theory; but, when evidence for a theory becomes so overwhelming that no informed person can doubt it, it is customary for scientists to call it a fact. That all present life descended from earlier forms, over vast stretches of geologic

Did Adam and Eve have navels? A celebrated 1504 copper engraving by Albrecht Dürer.

time, is as firmly established as Copernican cosmology. Biologists differ only with respect to theories about how the process operates.

Swaggart is also dead wrong in supposing that evolution implies atheism. Hundreds of the most distinguished modern Christian thinkers, both Catholic and Protestant, have accepted evolution, but Swaggart is too busy preaching, reading the Bible, and studying books by other Pentecostals to be aware of them. Even among evangelicals who share Jimmy's born-again faith, millions long ago decided to interpret the days of Genesis as long periods of time. Non-Christian theists—Thomas Jefferson and most of the other Founding Fathers, for instance—have had no difficulty seeing evolution as God's method of creating. I know of

no contemporary Protestant or Catholic theologians outside fundamentalist circles who have not accepted the fact of evolution, though they may insist on God's directing the process and infusing souls into the first humans.

In view of the sharp distinction between the fact of evolution and theories about how it operates, it is distressing to find some distinguished political conservatives giving aid and comfort to fundamentalists by adopting their blurring of this distinction. A recent horrendous example was "Room for Darwin and the Bible," a mini-essay by neoconservative Irving Kristol on the Op Ed page of the *New York Times* (September 30, 1986). After stressing divisions among scientists over the precise mechanisms of evolution, Kristol informs us that a "significant minority" of top scientists doubt that evolution occurred at all! "The current teaching of evolution in our public schools does indeed have an ideological bias against religious belief," Kristol writes, "teaching as 'fact' what is only hypothesis."

Kristol's source for this remark, which repeats a favorite tactic of know-nothing fundamentalists, is probably Tom Bethell's careless, misleading article "Agnostic Evolutionists," in *Harper's* (February 1985). Bethell discusses the views of a small noisy group of iconoclasts known as "transformed cladists." As Kristol puts it: "Many younger biologists (the so-called cladists) are persuaded that the differences among species . . . are such as to make the very concept of evolution questionable." Kristol neglected to do his homework. The cladists have never denied the fact of evolution. They merely classify life forms by methods that in their opinion cast doubts only on prevailing beliefs about ancestral linkages.

Why a respected writer who harbors no conservative religious opinions—if Kristol is even a philosophical theist, he has kept it carefully concealed—should go out of his way to write a piece that could have come straight from Jerry Falwell, beats me. It is sad to find him belaboring the science community for its united opposition to ignorant creationists who want teachers and textbooks to give equal time to crank arguments that have advanced not a step beyond the flyblown rhetoric of Bishop Wilberforce and William Jennings Bryan. Could his motive be to shore up Ronald Reagan's friendship with Falwell, and the president's support for teaching creationism in public schools? I will say no more because Stephen Jay Gould, with his usual clarity and elegance, has explained the facts of life to Kristol in "Darwinism Defined: The Difference Between Fact and Theory" (*Discover,* January 1987). It is an essay I commend to all my readers. •


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## ROBERT SHEAFFER

# Psychic Vibrations

UFOs are back in the news once again, and with the hoax MJ-12 "crashed saucer" documents grabbing most of the headlines (see pp. 137-146), some of the more interesting UFO-related stories may have escaped notice. The *New York Post* reported that Beverly McKitrick, ex-wife of the late comedian Jackie Gleason, is now claiming that Gleason told her that in 1973 President Nixon, who was a friend of Gleason, took him to Homestead Air Force Base in Florida to see the bodies of four dead space aliens. Gleason was a staunch believer in UFOs, and reportedly had his home in Peekskill, New York, which he named "The Mothership," built to resemble a flying saucer. It might seem unlikely that a president would take a comedian into an ultrasecret area to gawk at the remains of a flying-saucer crew, but the apparent absurdity of it does not automatically refute the claim. For all we know, at this very moment President Reagan may be escorting Chevy Chase and Pee-Wee Herman into a high-security hangar to view the little bodies.

* * * * *

Another alleged alien encounter just recently revealed was that of one of the most prolific abduction-finders of all, Leo Sprinkle, professor of counseling services at the University of Wyoming. For more than 20 years, Sprinkle has been using hypnosis to help other people "remember" their own abductions by UFO aliens, but until recently there was no hint that he himself would be counted among this

select group. Sprinkle spoke at the 1986 CSICOP Conference in Boulder, Colorado, telling of many unusual personal experiences, but a UFO abduction was not among them. However, the June 22, 1987, *National Enquirer* carried Sprinkle's picture superimposed upon a drawing of a flying saucer, under the headline "Space Aliens Abducted Me as a Child, Claims College Professor." Turnabout being fair play, when a colleague hypnotized *him,* Sprinkle recounted being taken aboard an alien craft while in the fifth grade and meeting "a very tall man," who looked human. He thinks he was taken on board the spacecraft more than once and that "those contacts were all to prepare me for my UFO research work." Apparently Sprinkle must have been so busy discovering other people's alleged abduction experiences that he somehow overlooked his own.

* * * * *

While we are on the subject of UFO "abductions," it should be noted that the behavior of UFOnauts has clearly taken a major turn for the worse. From the "peace and brotherhood" preached to 1950s "contactees," and the quiet and apparently purposeless abductions reported in the 1960s and 1970s, it appears that during the 1980s the aliens' behavior has turned positively menacing. Our scant knowledge of extraterrestrial psychology makes it difficult to pinpoint the cause for this alarming trend. However, it is clear that the aliens' interest in humankind is far more sexual, and their methods far less gentle, than was the case just a few years ago.

Budd Hopkins, abduction finder and author of *Missing Time* and the more recent *Intruders,* believes that space aliens are conducting genetic experiments on humans. They allegedly perform "gynecological experiments" on Earth women taken aboard their craft, presumably to remove ova. Some women claim to have been told about, or have actually seen, their half-alien progeny. Even males are not safe from such abuse: Whitley Strieber, author of the best-seller *Communion, Wolfen,* and other exciting tales, claims to have been anally raped by an alien probe, a procedure that intelligent aliens should realize is not likely to yield good genetic material but is nonetheless closely linked with sex in many people's minds. "Nowadays," says Strieber, "men find themselves on examining tables in flying saucers with vacuum devices attached to their privates, while women must endure the real agony of having their pregnancies disappear." It's enough to make one nostalgic for the platitudes of George Adamski! One reviewer of *Intruders* noted that "the most striking aspect of Hopkins's account is the interest shown by the abductors in the abductees' reproductive functions." (Freud would have had a great deal to say about such accounts.) The aliens also sometimes allegedly implant some sort of "control mechanism" in the nose, sinus, or skull of the victim, which for some reason cannot be found afterward by terrestrial medical examiners.

Stanton Friedman, who calls himself the "Flying Saucer Physicist," holds the opinion that various contingents of aliens visiting us seem to be functioning somewhat as a "flying university." Some are geologists, others botanists, and still others conduct genetic experiments on humans. If Friedman is correct, this would explain the puzzling change in the behavior of the alleged aliens: The relatively gentle philosophers, psychologists, and theologians were the first to arrive, the anatomists came next, and the alien genetic engineers have only recently arrived on the scene.

* * * * *

Finally, we understand that something of truly cosmic significance occurred this past August 16 and 17, but we're not sure exactly what. According to some astrologers, the ancient Mayan calendar, after allegedly counting more than 6,000 years (meaning the Mayans must have started it a few years *before* Creation week, if Bishop Ussher's chronology is correct), came to an end on August 16, 1987. To some, this foretold the end of the world, an event that, as far as we know, didn't happen. (If predictions of this kind had any validity, the world would already have been destroyed several times over.) Astrologer Bodo Capeller wrote that "the events in August point to a major realignment of our perception of reality. The cosmos itself is carrying us through a major step in evolution. A tremendous outpouring of divine love will take place of a magnitude unknown in recent memory. We are all participating if we like it or not."

Long before this cosmic event, radio commentators began to speak of the

coming "harmonic alignment" of the planets, an event that seemed to have escaped the notice of astronomers. Many Public Broadcasting Service stations scheduled several hours of coverage of the event, with live coverage from a number of "sacred sites" worldwide, thereby demonstrating a truly cosmic want of discernment. New Age author José Arguelles explained that in August our choice would be between a "new age" and all-out destruction and that the latter fate awaited the world unless enough people gathered at sacred sites like Machu Picchu, Peru, on August 16 and 17. If you are still alive to read this, we may safely assume that the effort succeeded. On the upside, Arguelles noted that at this time we would have the opportunity to join a federation of extraterrestrials—but if we did, it escaped our notice. Astrologer Joseph Jochman summed it all up by saying that "the etheric web of the new earth crystal has been completed," but we confess that to us its meaning is less than crystal clear. •


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# Special Report

*This is the first of two articles.*

# The MJ-12 Crashed-Saucer Documents

## Numerous flaws and inconsistencies reveal that "top secret" papers, including one allegedly found in the National Archives, are fraudulent.

Philip J. Klass

ON MAY 29, 1987, William L. Moore and two associates, Stanton Friedman and Jamie Shandera, released what purport to be "Top Secret" government documents that are either the biggest news story of the past two millennia or one of the biggest cons ever attempted against the public and the news media.

If authentic, the documents show that the U.S. government recovered a crashed flying saucer in mid-1947, and four extraterrestrial-creature bodies, much as Moore claimed in his 1980 book, *The Roswell Incident* (coauthored with Charles Berlitz), and that the government also recovered the remains of another saucer, which crashed on December 6, 1950, near the Texas-Mexico border.

Further, these documents indicate that on September 24, 1947, President Harry S Truman authorized Defense Secretary James Forrestal and Dr. Vannevar Bush, president of the Carnegie Institution, to create a top-secret panel of 12 scientists, military leaders, and intelligence officials—called Operation Majestic-12 (MJ-12). Its function, presumably, was to analyze the crashed saucer to determine its technological secrets and to make recommendations for a suitable U.S. response to extraterrestrial visitors whose intentions might prove to be hostile.

The papers released by Moore, Friedman, and Shandera consisted of

*Philip J. Klass, a veteran aerospace editor in Washington, is chairman of CSICOP's UFO Subcommittee and author of* UFOs: The Public Deceived *and* UFOs Explained, *among other books. His new book,* UFO-Abductions: A Dangerous Game, *will be published in early 1988 by Prometheus Books.*

three elements, purporting to be the following: (1) a "Top Secret" memorandum from President Truman to Defense Secretary Forrestal, dated September 24, 1947, authorizing him and Dr. Bush to proceed with Operation Majestic-12; (2) a seven-page "Top Secret/Eyes Only" Majestic-12 document used to brief President-Elect Eisenhower, dated November 18, 1952; (3) a "Top Secret" memorandum from Robert Cutler, special assistant to President Eisenhower, to General Nathan Twining, USAF chief of staff, dated July 14, 1954.

According to Moore, the Truman/Forrestal memo and the Eisenhower briefing document were received in mid-December 1984 by Moore's friend Jamie Shandera, a Los Angeles television writer-producer, on an undeveloped roll of 35 mm film.

As Moore described the circumstances in his banquet speech at the 1987 MUFON UFO conference in Washington in late June, the package containing the film was wrapped in plain brown paper "taped with official-looking brown tape on all seams. The address label was carefully typed, with no return address. Inside the [brown] wrapper was a second one, similarly sealed, inside of which was yet another white envelope, inside of which was a cannister, inside of which was a roll of *unprocessed* film." (Moore has not replied to my repeated requests that he send me a photocopy of the postmark, showing city and date of mailing.)

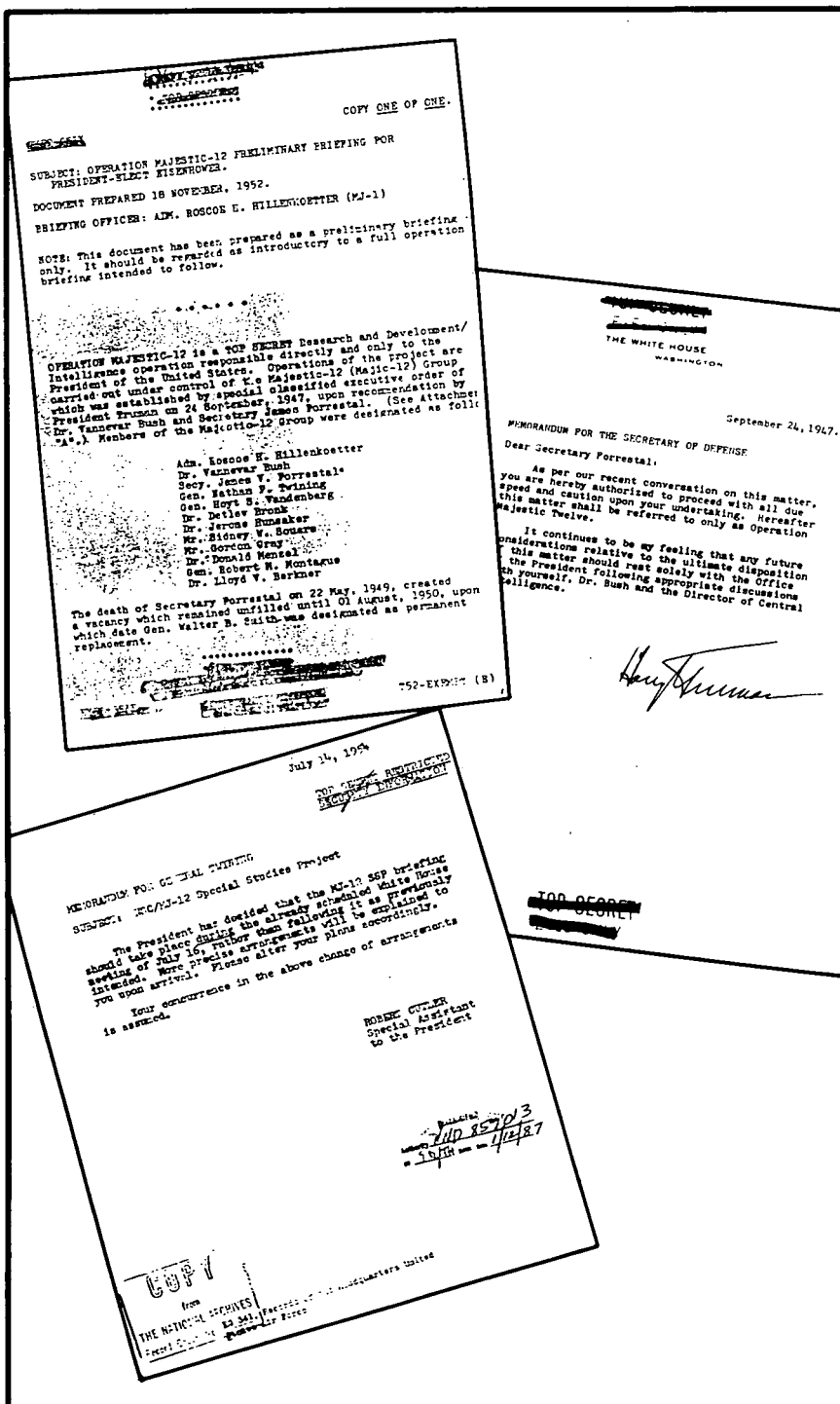
If the MJ-12 documents film is authentic, it is odd that it was not sent to Moore, whose book and numerous MUFON conference papers have made him world famous as *the* leading crashed-saucer proponent and researcher—or to Stanton Friedman, who has been Moore's closest collaborator on crashed-saucer research for almost a decade. As Moore explained at the MUFON conference, in recent years he has focused his efforts on trying to establish contacts within the intelligence community "to find out what happened to the wreckage after it came into custody of military authorities."

Why would the film be sent to Shandera, who had never published any papers on UFOs or crashed saucers and does not even consider himself a UFOlogist? How would the sender of the 35 mm film even know that Shandera and Moore were friends and that the contents would find their way to Moore?

Even before the film was developed and the MJ-12 papers became visible, Shandera demonstrated "psychic powers" in "knowing" that the undeveloped roll of 35 mm film in the plain brown wrapper from an unknown sender would be of interest to Moore. This explains why he promptly called Moore even before the film was processed and why Moore was present when it was being developed, according to Moore's report to MUFON.

According to Moore, the person who made the 35 mm film had photographed the MJ-12 documents in two duplicate sequences, seemingly to ensure that there would be at least one good set of imagery. But the sender had not thought to process the film himself for final assurance before sending it to Shandera.

The film's seven-page Eisenhower briefing document indicated that the briefing officer was Admiral Roscoe H. Hillenkoetter, who had been head of



COPY ONE OF ONE.

SUBJECT: OPERATION MAJESTIC-12 PRELIMINARY BRIEFING FOR PRESIDENT-ELECT EISENHOWER.

DOCUMENT PREPARED 18 NOVEMBER, 1952.

BRIEFING OFFICER: ADM. ROSCOE H. HILLENKOETTER (MJ-1)

NOTE: This document has been prepared as a preliminary briefing only. It should be regarded as introductory to a full operation briefing intended to follow.

OPERATION MAJESTIC-12 is a TOP SECRET Research and Development/Intelligence operation responsible directly and only to the President of the United States. Operations of the Project are carried out under control of the Majestic-12 (Majic-12) Group which was established by special classified executive order of President Truman on 24 September, 1947, upon recommendation by Dr. Vannevar Bush and Secretary James Forrestal. (See Attachment "A".) Members of the Majestic-12 Group were designated as follows:

Adm. Roscoe H. Hillenkoetter
Dr. Vannevar Bush
Secy. James V. Forrestal
Gen. Nathan F. Twining
Gen. Hoyt S. Vandenberg
Dr. Detlev Bronk
Dr. Jerome Hunsaker
Mr. Sidney W. Souers
Mr. Gordon Gray
Dr. Donald Menzel
Gen. Robert M. Montague
Dr. Lloyd V. Berkner

The death of Secretary Forrestal on 22 May, 1949, created a vacancy which remained unfilled until 01 August, 1950, upon which date Gen. Walter B. Smith was designated as permanent replacement.

52-EXHIBIT (B)

THE WHITE HOUSE
WASHINGTON

September 24, 1947.

MEMORANDUM FOR THE SECRETARY OF DEFENSE

Dear Secretary Forrestal,

As per our recent conversation on this matter, you are hereby authorized to proceed with all due speed and caution upon your undertaking. Hereafter this matter shall be referred to only as Operation Majestic Twelve.

It continues to be my feeling that any future considerations relative to the ultimate disposition of this matter should rest solely with the Office of the President following appropriate discussions with yourself, Dr. Bush and the Director of Central Intelligence.

July 14, 1954

MEMORANDUM FOR GENERAL TWINING

SUBJECT: MJC/MJ-12 Special Studies Project

The President has decided that the MJ-12 SSP briefing should take place during the already scheduled White House meeting of July 16, rather than following it as previously intended. More precise arrangements will be explained to you upon arrival. Please alter your plans accordingly.

Your concurrence in the above change of arrangements is assumed.

ROBERT CUTLER
Special Assistant
to the President

COPY
from
THE NATIONAL ARCHIVES

The "top secret/eyes only" Hillenkoetter briefing document, the "top secret" Cutler memorandum, and the "top secret" Truman memorandum to Defense Secretary Forrestal.

the Central Intelligence Agency in 1947 when MJ-12 allegedly was created and thus would logically be a member. But in the fall of 1950 Hillenkoetter left the CIA to return to sea duty as commander of the Seventh Task Force in Formosan Waters and did not return for duty in the United States until late 1951—the year before the alleged briefing—to become commander of the Third Naval District in New York.

It would have been more logical for Eisenhower to have been briefed by the chairman of MJ-12, who had remained in the United States, close to the committee's activities, since 1947. Presumably this would have been Dr. Bush, who allegedly organized MJ-12 and is shown as one of its original members. (Although the briefing document lists the 12 members of the group, it does not indicate who was chairman but identifies Hillenkoetter as "MJ-1."

While there are many such substantive anomalies in the contents of the alleged Hillenkoetter/Eisenhower briefing documents, which will be discussed in a subsequent article, the most revealing is the format used to write dates. (I am indebted to Christopher Allan, Stoke-on-Trent, England, who first brought these very significant anomalies to my attention.)

Whoever typed the Hillenkoetter briefing document used a peculiar style for writing dates—an erroneous mixture of civil and military formats. In the traditional civil style, one would write: November 18, 1952. Using the standard military format, one would write: 18 November 1952. But whoever typed the Hillenkoetter briefing document used a military format with an unnecessary comma: "18 November, 1952." *Every date* that appears in this document uses this erroneous military format, with the "unnecessary comma." By a curious coincidence, this is precisely the same style used by William L. Moore in *all* of his many letters to me since 1982, when our correspondence began.

Another curious anomaly in the Hillenkoetter document is the use of a "zero" preceding a single-digit date, a practice that was not used in 1952, when the briefing document allegedly was written, and which has come into limited use only in very recent years. Examination of numerous military and CIA documents written during the 1950s, 1960s, and 1970s shows the standard format was to write: "1 August 1950." Yet the Hillenkoetter document contains the following: "01 August, 1950" and "07 July, 1947," and "06 December, 1950."

My files of correspondence from Moore show that he used a single digit *without* a zero until the fall of 1983—roughly a year before the Hillenkoetter document film reportedly was sent to Shandera—when he then switched to the same style used in the Hillenkoetter briefing document.

The other document contained on the 35 mm film is what purports to be a "Top Secret/Eyes Only" memorandum, dated September 24, 1947, on White House stationery signed by President Truman. There is no question of the authenticity of the signature, but thanks to invention of the Xerox machine, it is easy to substitute bogus text on a photocopy of an authentic original, obtained, for example, from the Truman Library, in Independence, Missouri, which both Moore and Friedman visited prior to late 1984.

The format of the September 24 memorandum to Defense Secretary Forrestal differs significantly from that used by the president's secretary in other memoranda written to Forrestal, and others, during the same period. The typewriter used for the September 24 document was a relatively inexpensive one with a worn ribbon and keys that had not been recently cleaned, in contrast to the more elegant typeface, fresh-ribbon appearance of authentic Truman memoranda written at about the same time.

Furthermore, Truman was a blunt-spoken man whose letters reflect that style. Yet the second paragraph of the two-paragraph September 24 memo is filled with "un-Truman-like" gobbledygook: "It continues to be my feeling that any future considerations relative to the ultimate disposition of this matter should rest solely with the Office of the President following appropriate discussions with yourself, Dr. Bush and the Director of Central Intelligence." There was no need for Truman to be vague for security reasons, because the September 24 letter is stamped "Top Secret/Eyes Only."

If the letter were authentic, I'm confident it would have read more like the following: "Let's find out where in the hell these craft are coming from, whether they pose a military threat, and what in the hell we can do to defend the country against them if they should attack. I trust you will place all our forces on alert status and inform me if you need additional funds or other resources to protect this nation."

Moore told his MUFON audience that for two and a half years "we sat on the [MJ-12] material and did everything we could with it" to check its authenticity. He noted that all of the persons listed as being members of MJ-12 are now dead. Moore added: "If I was going to pick a panel at that time, capable of dealing with a crashed UFO, I would certainly want to consider [those on] that list." In other words, the members of MJ-12 were persons whom Moore himself would probably have selected for such a committee.

In mid-1982, more than two years before learning of Bush's key role from the MJ-12 papers, Moore demonstrated remarkable psychic abilities in a paper presented at a MUFON conference in Toronto. Moore said that Bush would be "the logical choice for an assignment to set up a Top Secret project dealing with a crashed UFO." Two years later, the MJ-12 papers confirmed Moore's judgment.

In the spring of 1985, Friedman learned that more than a hundred boxes of once Top Secret USAF intelligence documents from 1946 through 1955 were being reviewed by USAF representatives for declassification at the National Archives, in Washington, and he informed Moore of this. In July, Moore and Shandera flew to Washington and were the first persons—according to Moore—to gain access to those more than one hundred cartons of once Top Secret documents.

Lady Luck smiled, enabling Moore and Shandera to discover a sorely needed sheet of paper that could authenticate the MJ-12 documents on the 35 mm film. This key document purports to be a brief, two-paragraph memorandum, dated July 14, 1954, to USAF Chief-of-Staff Twining written

by Robert Cutler, then special assistant to President Eisenhower. The subject of Cutler's memo was "NSC/MJ-12 Special Studies Project," and it informed General Twining that "the President has decided that the MJ-12 SSP briefing should take place during the already scheduled White House meeting of July 16, rather than following it as previously intended."

Moore explained the importance of the July 1985 discovery of the Cutler memo to his MUFON audience in these words: "For the first time we had an official document available through a public source [National Archives] that talked about MJ-12." One might logically have expected that Moore would promptly "go public" with his remarkable MJ-12 papers, which now seemingly were authenticated by the Cutler memo. Yet, curiously, Moore did not do so, *for nearly two years!*

In the April 30, 1987, issue of a newsletter Moore publishes, he first released *three* of the *seven* pages of the Hillenkoetter briefing document, but in *heavily censored* form—*censored by Moore himself.* There was no mention of the Truman memo of September 24, 1947, nor of the Cutler memo of July 14, 1954, nor of the 35 mm film. Instead, Moore implied that the three heavily censored pages of the Hillenkoetter document had been provided by his "well-placed contacts within the American intelligence community" and said that "assurances have been given that additional information can be made available to us over the next several months."

This suggests to me that Moore planned to "dribble out" the MJ-12 material, in his possession since late 1984, in subsequent issues of his newsletter. This could generate more paid subscribers. If this was Moore's plan, it was thrown into disarray in mid-May when British UFOlogist Timothy Good met with the press to promote his new book, which claims a global UFO coverup. Good told British news media about the MJ-12 documents, which he said he had obtained "two months ago from a reliable American source who has close connections with the intelligence community. . . ."

Shortly afterward, Moore went public with the MJ-12 documents, including the Truman and Cutler memoranda, crediting them to the Moore-Shandera-Friedman Research Project. His release said: "Although we are not in a position to endorse its authenticity at this time, it is our considered opinion, based upon research and interviews conducted thus far, that the document and its contents *appear* to be genuine. . . . One document was uncovered at the National Archives which unquestionably verifies the existence of an 'MJ-12' group in 1954 and definitely links both the National Security Council and the president of the United States [Eisenhower] to it. A copy of this document, with its authenticating stamp from the National Archives, is also attached for your examination."

Stanton Friedman, nuclear physicist turned full-time UFO lecturer, who recently has returned to his original field, has been Moore's principal researcher-collaborator on crashed-saucer matters. Moore and Friedman continued to collaborate even after Friedman moved from California to New Brunswick, Canada, in 1980, as evidenced by their jointly authored paper on

Exhibit "A." At top are Hillenkoetter MJ-12 documents. Below these are examples of authentic Military/CIA-document format of the 1950s.

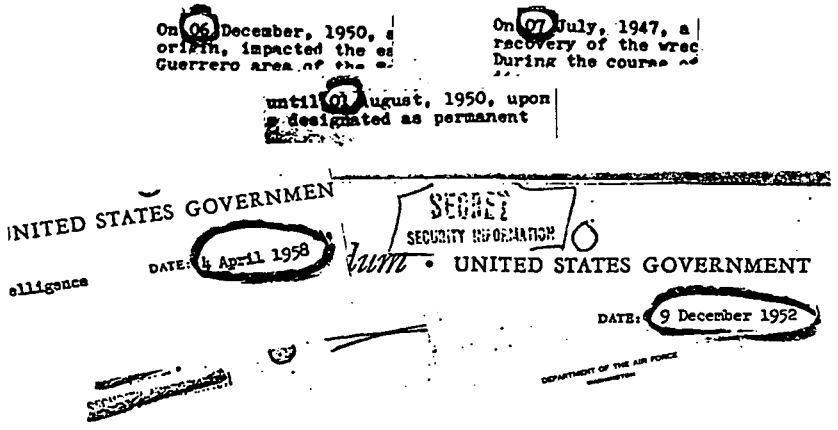



Exhibit "B." At top are Hillenkoetter MJ-12 documents. Below are authentic Military/CIA documents showing correct date format, without comma following the month.

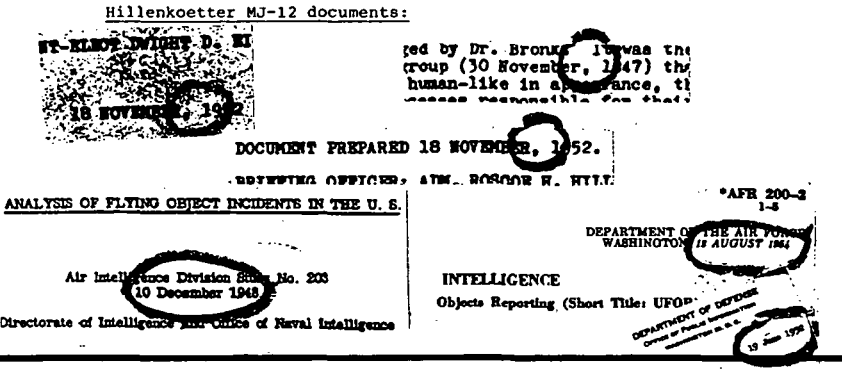
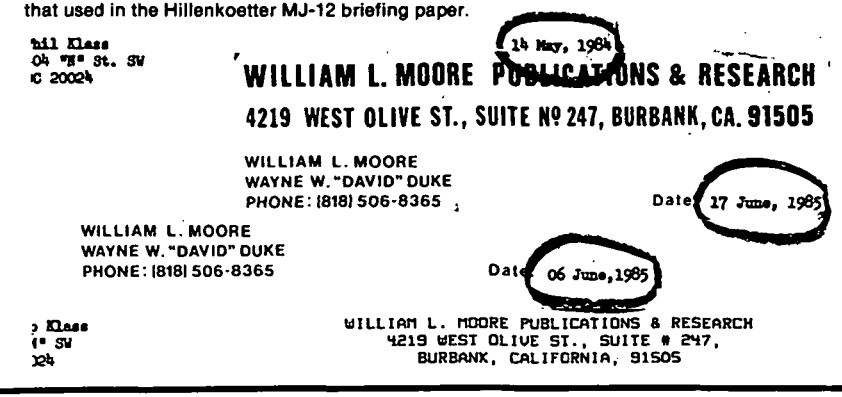

Hillenkoetter MJ-12 documents:
18 NOVEMBER, 19
DOCUMENT PREPARED 18 NOVEMBER, 1952.
ANALYSIS OF FLYING OBJECT INCIDENTS IN THE U. S.
Air Intelligence Division Study No. 203
10 December 1948
Directorate of Intelligence and Office of Naval Intelligence
*AFR 200-2
1-6
DEPARTMENT OF THE AIR FORCE
WASHINGTON 25 AUGUST 1954
INTELLIGENCE
Objects Reporting (Short Title: UFOB)
DEPARTMENT OF DEFENSE
19 June 1975

Exhibit "C." William L. Moore letters showing same incorrect "mixed military-civil format as that used in the Hillenkoetter MJ-12 briefing paper.


14 May, 1984
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WILLIAM L. MOORE
WAYNE W. "DAVID" DUKE
PHONE: (818) 506-8365
Date 17 June, 1985
WILLIAM L. MOORE
WAYNE W. "DAVID" DUKE
PHONE: (818) 506-8365
Date 06 June, 1985
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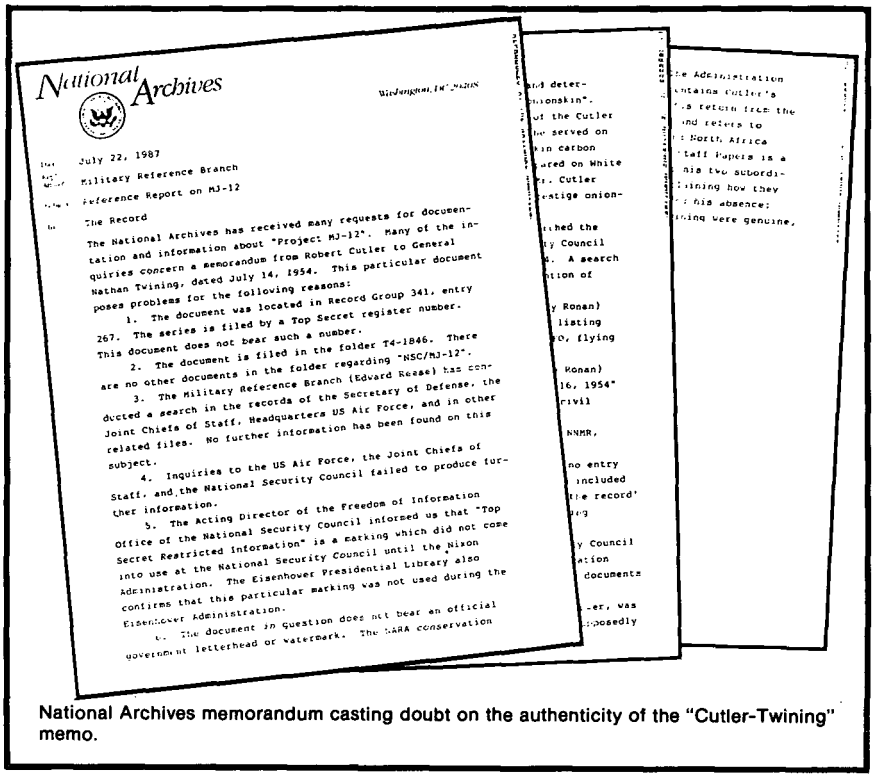

National Archives

July 22, 1987

Military Reference Branch

Reference Report on MJ-12

The Record

The National Archives has received many requests for documentation and information about "Project MJ-12". Many of the inquiries concern a memorandum from Robert Cutler to General Nathan Twining, dated July 14, 1954. This particular document poses problems for the following reasons:

1. The document was located in Record Group 341, entry 267. The series is filed by a Top Secret register number. This document does not bear such a number.

2. The document is filed in the folder T4-1846. There are no other documents in the folder regarding "NSC/MJ-12".

3. The Military Reference Branch (Edvard Reese) has conducted a search in the records of the Secretary of Defense, the Joint Chiefs of Staff, Headquarters US Air Force, and in other related files. No further information has been found on this subject.

4. Inquiries to the US Air Force, the Joint Chiefs of Staff, and the National Security Council failed to produce further information.

5. The Acting Director of the Freedom of Information Office of the National Security Council informed us that "Top Secret Restricted Information" is a marking which did not come into use at the National Security Council until the Nixon Administration. The Eisenhower Presidential Library also confirms that this particular marking was not used during the Eisenhower Administration.

6. The document in question does not bear an official government letterhead or watermark. The NARA conservation

National Archives memorandum casting doubt on the authenticity of the "Cutler-Twining" memo.

crashed-saucers presented at the 1981 MUFON conference in Cambridge, Massachusetts.

Thus one would think that, immediately after discovering the MJ-12 papers on the 35 mm film in late 1984, Moore would have sent a copy to Friedman. Yet it was not until late May 1987 that Friedman obtained a set of the documents, according to Friedman. In view of Moore's claim that he and Shandera spent more than two years trying to verify the authenticity of the MJ-12 papers, one would have expected that Moore would promptly have sent the MJ-12 papers to Friedman to enlist his help in trying to authenticate them.

Friedman told me that Moore first informed him by telephone of the MJ-12 papers in late 1984 or early 1985. But, as Friedman explained in a recent letter, at that time one of his sons was fatally ill and Friedman was preoccupied with buying a new house and preparing to leave for a long UFO lecture tour. So it did not occur to Friedman to ask that Moore send him a copy of the MJ-12 papers, nor did he request a copy during the subsequent two years. That Moore did not send Friedman a copy on his own seems a most curious oversight since the documents, if authentic, were world-shaking in their importance. It is especially odd in view of Timothy Good's claim that his unidentified American source had supplied him with a copy of the MJ-12 papers earlier than Moore supplied a copy to Friedman, his closest collabora-

tor on the case. (Moore has not responded to my repeated queries as to whether he was the American source who supplied Good with the MJ-12 papers.)

On July 22, 1987, Jo Ann Williamson, chief of the military reference branch of the National Archives, wrote a three-page memorandum summarizing the results of its own investigation into the Cutler/Twining memo, which played a key role in "authenticating" the MJ-12 papers. The National Archives memo pointed out that every other Top Secret document in the boxes of material in which the Cutler/Twining memo allegedly was found was stamped with an individual "register number"—a protocol used by the USAF reviewers to assure that each is properly accounted for and none is mislaid. The National Archives memo notes that the Cutler/Twining memo "does not bear such a number."

The Cutler/Twining memo purported to be a carbon copy on onionskin paper—which understandably would not carry the White House logo and would not necessarily be signed or initialed by Cutler. But the National Archives memo noted that "the Eisenhower Library has examined its collection of the Cutler papers. All documents created by Mr. Cutler while he served on the NSC staff have an eagle watermark in the onionskin paper." The Cutler/Twining memo found by Moore and Shandera did *not* have such a watermark. Furthermore, typewriter-key impressions protruded from the backside, suggesting it was an "original" and not a carbon copy as it appeared to be.

The National Archives memo quoted Eisenhower Library officials as stating that even when President Eisenhower had "off-the-record" meetings,

## CSICOP Statement On Institutional Responsibility for Noncredit Courses

The Executive Council of CSICOP has been asked to express its attitude toward the many courses on parapsychology and other paranormal topics offered by academic institutions.

CSICOP is committed to free inquiry and academic freedom and is opposed to any effort to deny the right to teach or to censor free speech. However, we believe in maintaining high standards of excellence in academic subjects and believe that competent academic bodies should determine the content of the curricula in their respective institutions.

We believe that academic institutions have a responsibility to the general public to ensure that there is a proper procedure for the approval of the content of such courses and that the persons teaching these courses have the appropriate training and qualifications.

CSICOP Executive Council
November 1987

his appointment books "contain entries indicating the time of the meeting and the participants. . . ." But "President Eisenhower's Appointment Books contain no entry for a special meeting on July 16, 1954, which might have included a briefing on MJ-12."

More significant, Robert Cutler could not possibly have written the memo on July 14, 1954, telling of last-minute changes in the president's schedule, *because Cutler had left Washington 11 days earlier (July 3)* to visit major military facilities in North Africa and Europe and did not return to Washington until July 15. This is shown by his subsequent trip report to the president, dated July 20, housed in the Eisenhower Library.

On August 20, 1987, the Committee for the Scientific Investigation of Claims of the Paranormal issued a four-page press release that characterized the MJ-12 papers as "clumsy counterfeits." It cited some of the discrepancies discussed above and attached a copy of the National Archives memo of July 22, 1987.

Several weeks later, the J. Allen Hynek Center for UFO Studies responded with a press release that said the question of the authenticity of the MJ-12 documents "is still open." CUFOS quoted Moore as saying that CSICOP "failed to raise a single issue which cannot be explained by further examination of the evidence." Moore charged that CSICOP's appraisal was "not only premature, but unscientific and emotional."

Shortly afterward, Citizens Against UFO Secrecy, a group that often accuses the government of a UFO-coverup, distributed the September issue of its newsletter *Just Cause.* The entire issue was devoted to the MJ-12 papers. Editor Barry Greenwood said that he remains open-minded to the possibility that a flying saucer crashed in New Mexico in 1947. But, based on his own investigation into the MJ-12 papers, Greenwood characterized them as "a grand deception and, consequently, a giant black eye on the face of UFOlogy. . . . The deeper we looked, the worse it became." •

*Editor's Note: The next issue of the* SKEPTICAL INQUIRER *will examine numerous anomalies in the "Hillenkoetter briefing papers," the reaction of the news media and the leaders of the UFO movement to the MJ-12 papers, and the most important evidence—which a hoaxer could never hope to fabricate.*

# The Aliens Among Us: Hypnotic Regression Revisited

*The experiences and behaviors portrayed in recent alien-abduction books are explained in a naturalistic and satisfying way by our understanding of anomalistic psychology.*

Robert A. Baker

FOR THE AVERAGE person walking down the aisle of a modern bookstore or passing through the checkout lane at the nearest supermarket, it would be easy to conclude that aliens from outer space not only are here but also have joined the Baptist church, have put their kids in school, and belong to the Rotary Club. This conclusion is demanded by the recent rash of nonfiction books about UFO contacts, encounters of the third kind, and human abductions by little gray men from outer space or some other parallel universe. Typical of these tomes are *Communion,* by Whitley Strieber; *Intruders,* by Budd Hopkins; and *Light Years: An Investigation into the Extraterrestrial Experience of Eduard Meier,* by Gary Kinder. (See reviews of the Strieber and Hopkins books in the Fall 1987 *SI.*) According to these and other UFO pundits, abductions by "little gray aliens" are so prevalent they will soon become commonplace and generally accepted as a fact of life by a now skeptical public and press.

My friends and colleagues and I, however, are beginning to believe that we have Alien B.O. or something worse, because none of us has been contacted, interviewed, briefed, threatened, kidnapped, or physically examined by any of the little folk. We, sadly enough, have not even had our car stalled by one of their spaceships. It stalls on occasion, but the problem lies in Detroit rather than with the aliens. Could all this alien activity going on around us be overlooked by responsible authorities?

To impress the general reader, all three authors have taken great pains to give as much credibility and authenticity as possible to their claims. Strieber not only took a lie-detector test but also had a psychiatrist write a statement attesting to his sanity.[1] Kinder had professional photographers examine a

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number of Meier's photographs and also had an IBM metallurgist endorse the unusual quality of a metal fragment from the purported spaceship. To Kinder's credit, however, he admits that he is skeptical about some of Meier's claims—particularly that of journeying back in time and talking to Jesus Christ. As for Hopkins, he not only consulted a number of psychologists and psychiatrists (he even found an abductee among them) but also had medical specialists corroborate the correctness of the medical techniques the aliens used to examine their human subjects. Just why aliens should copy human medical approaches is an unanswered question.

One would have thought that Philip Klass's (1981) devastating attack on abductee claims, published in this journal, coupled with Robert Sheaffer's (1981) brilliant and calmly reasoned work, *The UFO Verdict,* and Douglas Curran's (1985) *In Advance of the Landing: Folk Concepts of Outer Space,* along with William R. Corliss's (1983) *Handbook of Unusual Natural Phenomena,* would have given the true believers pause and would have dampened somewhat their extravagant claims. But, like a rubber ball, they keep bouncing back.

Sheaffer and Corliss offer credible and scientific explanations of 99 percent or more of the strange lights in the sky, whereas Curran's extensive catalog of aberrant human believers suggests that the true aliens in our midst are not from outer space or a parallel dimension but are our fellow *Homo sapiens* from the edge of town. If you wish to see some excellent photos of aliens, study the pictures and read the biographies in Curran's book.[2] Truly, the aliens and the alienated are already among us and have been for a long while, differing from the majority of other Americans only in the extreme nature of their beliefs and convictions. Klass's continuing excellent work on UFO demystification highlights the significance of hypnotic regression in the abductee belief system. For hypnotic regression and the personality pattern Wilson and Barber (1983) call "fantasy-prone," as well as the behavior of individuals undergoing hypnogogic and hypnopompic experiences, furnish, we believe, complete and credible explanations to most—if not all—accounts of UFO contacts and abductions past and present.

Most people seem unaware of the fact that there is an already well established branch of psychology, anomalistic psychology, that deals specifically with the kind of experiences had by Strieber, Meier, and the other UFO abductees. This psychology provides naturalistic and satisfying explanations for the entire range of such behaviors. Let us examine these explanations a little more closely and in a little more detail.

## Hypnosis and Hypnotic Regression

In France in the 1770s, when Mesmerism was in its heyday, the king appointed two commissions to investigate Mesmer's activities. The commissions included such eminent men as Benjamin Franklin, Lavoisier, and Jean-Sylvain Bailly, the French astronomer. After months of study the report of the commissioners concluded that it was *imagination,* not magnetism, that accounted for the

***Hypnotic regression, the fantasy-prone personality, and 'waking-dream' experiences furnish credible explanations of most—if not all—accounts of UFO abductions.***

swooning, trancelike rigidity of Mesmer's subjects. Surprisingly enough, this conclusion is still closer to the truth about hypnosis than most of the modern definitions found in today's textbooks.

So-called authorities still disagree about "hypnosis." But whether it is or is not a "state," there is common and widespread agreement among all the major disputants that "hypnosis" is a situation in which people set aside critical judgment (without abandoning it entirely) and engage in make-believe and fantasy; that is, they use their imagination (Sarbin and Andersen 1967; Barber 1969; Gill and Brenman 1959; Hilgard 1977). As stated earlier, there are great individual differences in the ability to fantasize, and in recent years many authorities have made it a *requirement* for any successful "hypnotic" performance. Josephine Hilgard (1979) refers to hypnosis as "imaginative involvement," Sarbin and Coe (1972) term it "believed-in imaginings," Spanos and Barber (1974) call it "involvement in suggestion-related imaginings," and Sutcliffe (1961) has gone so far as to characterize the hypnotizable individual as someone who is "deluded in a descriptive, nonpejorative sense" and he sees the hypnotic situation as an arena in which people who are skilled at make-believe and fantasy are provided with the opportunity and the means to do what they enjoy doing and what they are able to do especially well. Even more recently Perry, Laurence, Nadon, and Labelle (1986) concluded that "abilities such as imagery/imagination, absorption, disassociation, and selective attention underlie high hypnotic responsivity in yet undetermined combinations." The same authors, in another context dealing with past-lives regression, also concluded that "it should be expected that any material provided in age regression (which is at the basis of reports of reincarnation) may be fact or fantasy, and it is most likely an admixture of both." The authors further report that such regression material is colored by issues of confabulation, memory creation, inadvertent cueing, and the regressee's current psychological needs. (See also Nicholas Spanos's article in this issue.)

## Confabulation

Because of its universality, it is quite surprising that the phenomenon of confabulation is not better known. Confabulation, or the tendency of ordinary, sane individuals to confuse fact with fiction and to report fantasized events as actual occurrences, has surfaced in just about every situation in which a person has attempted to remember very specific details from the past. A classical and amusing example occurs in the movie *Gigi,* in the scene where Maurice Chevalier and Hermione Gingold compare memories of their

courtship in the song "I Remember It Well." We remember things not the way they really were but the way we would have liked them to have been.

The work of Elizabeth Loftus and others over the past decade has demonstrated that the human memory works not like a tape recorder but more like the village storyteller—i.e., it is both creative and recreative. We can and we do easily forget. We blur, shape, erase, and change details of the events in our past. Many people walk around daily with heads full of "fake memories." Moreover, the unreliability of eyewitness testimony is not only legendary but well documented. When all of this is further complicated and compounded by the impact of suggestions provided by the hypnotist plus the social-demand characteristics of the typical hypnotic situation, little wonder that the resulting recall on the part of the regressee bears no resemblance to the truth. *In fact, the regressee often does not know what the truth is.*

Confabulation shows up without fail in nearly every context in which hypnosis is employed, including the forensic area. Thus it is not surprising that most states have no legal precedents on the use of hypnotic testimony. Furthermore, many state courts have begun to limit testimony from hypnotized witnesses or to follow the guidelines laid down by the American Medical Association in 1985 to assure that witnesses' memories are not contaminated by the hypnosis itself. For not only do we translate beliefs into memories when we are wide awake, but in the case of hypnotized witnesses with few specific memories the hypnotist may unwittingly suggest memories and create a witness with a number of crucial and vivid recollections of events that never happened, i.e., pseudo-memories. It may turn out that the recent Supreme Court decision allowing the individual states limited use of hypnotically aided testimony may not be in the best interests of those who seek the truth. Even in their decision the judges recognized that hypnosis may often produce incorrect recollections and unreliable testimony.

There have also been a number of clinical and experimental demonstrations of the creation of pseudo-memories that have subsequently come to be believed as veridical. Hilgard (1981) implanted a false memory of an experience connected with a bank robbery that never occurred. His subject found the experience so vivid that he was able to select from a series of photographs a picture of the man he thought had committed the robbery. At another time, Hilgard deliberately assigned two concurrent—though spatially different—life experiences to the same person and regressed him at separate times to *that date.* The individual subsequently gave very accurate accounts of both experiences, so that anyone believing in reincarnation who reviewed the two accounts would conclude the man *really had* lived the two assigned lives.

In a number of other experiments designed to measure eyewitness reliability, Loftus (1979) found that details supplied by others invariably contaminated the memory of the eyewitness. People's hair changed color, stop signs became yield signs, yellow convertibles turned to red sedans, the left side of the street became the right-hand side, and so on. The results of these studies led her to conclude, "It may well be that the legal notion of an independent recollection is a psychological impossibility." As for hypnosis,

she says: "There's no way even the most sophisticated hypnotist can tell the difference between a memory that is real and one that's created. If a person is hypnotized and highly suggestible and false information is implanted in his mind, it may get embedded even more strongly. One psychologist tried to use a polygraph to distinguish between real and phony memory, but it didn't work. Once someone has constructed a memory, he comes to believe it himself."

## Cueing: Inadvertent and Advertent

Without a doubt, inadvertent cueing also plays a major role in UFO-abduction fantasies. The hypnotist unintentionally gives away to the person being regressed exactly what response is wanted. This was most clearly shown in an experimental study of hypnotic age regression by R. M. True in 1949. He found that 92 percent of his subjects, regressed to the day of their tenth birthday, could accurately recall the day of the week on which it fell. He also found the same thing for 84 percent of his subjects for their fourth birthday. Other investigators, however, were unable to duplicate True's findings. When True was questioned by Martin Orne about his experiment, he discovered that the editors of *Science,* where his report had appeared, altered his procedure section without his prior consent. True, Orne discovered, had inadvertently cued his subjects by following the unusual technique of asking them, "Is it Monday? Is it Tuesday? Is it Wednesday?" etc., and he monitored their responses by using a perpetual desk calendar in full view of all his subjects. Further evidence of the prevalence and importance of such cueing came from a study by O'Connell, Shor, and Orne (1970). They found that in an existing group of four-year-olds not a single one knew what day of the week it was. The reincarnation literature is also replete with examples of such inadvertent cueing. Ian Wilson (1981), for example, has shown that hypnotically elicited reports of being reincarnated vary as a direct function of the hypnotist's belief about reincarnation. Finally, Laurence, Nadon, Nogrady, and Perry (1986) have shown that pseudo-memories were elicited also by inadvertent cueing in the use of hypnosis by the police.

As for advertent, or *deliberate,* cueing, one of my own studies offers a clear example. Sixty undergraduates divided into three groups of twenty each were hypnotized and age-regressed to previous lifetimes. Before each hypnosis session, however, suggestions very favorable to and supportive of past-life and reincarnation beliefs were given to one group; neutral and noncommittal statements about past lives were given to the second group; and skeptical and derogatory statements about past lives were given to the third group. The results clearly showed the effects of these cues and suggestions. Subjects in the first group showed the most past-life regressions and the most past-life productions; subjects in the third group showed the least (Baker 1982).

Regression subjects take cues as to how they are to respond from the person doing the regressions and asking the questions. If the hypnotist is a believer in UFO abductions the odds are heavily in favor of him eliciting

***Not only do we translate beliefs into memories . . . but in the case of hypnotized witnesses . . . the hypnotist may unwittingly suggest memories and create . . . vivid recollections of events that never happened, i.e., pseudo-memories.***

UFO-abductee stories from his volunteers.

### Fantasy-Prone Personalities and Psychological Needs

"Assuming that all you have said thus far *is* true," the skeptical observer might ask, "why would hundreds of ordinary, mild-mannered, unassuming citizens suddenly go off the deep end and turn up with cases of amnesia and then, when under hypnosis, all report nearly identical experiences?" First, the abductees are not as numerous as we are led to believe; and, second, even though Strieber and Hopkins go to great lengths to emphasize the diversity of the people who report these events, they are much more alike than these taxonomists declare. In an afterword to Hopkins's *Missing Time,* a psychologist named Aphrodite Clamar raises exactly this question and then adds, "All of these people seem quite ordinary in the psychological sense—*although they have not been subjected to the kind of psychological testing that might provide a deeper understanding of their personalities"* (italics added). And herein lies the problem. If these abductees were given this sort of intensive diagnostic testing it is highly likely that many similarities would emerge—particularly an unusual personality pattern that Wilson and Barber (1983) have categorized as "fantasy-prone." In an important but much neglected article, they report in some detail their discovery of a group of excellent hypnotic subjects with unusual fantasy abilities. In their words:

> Although this study provided a broader understanding of the kind of life experiences that may underlie the ability to be an excellent hypnotic subject, it has also led to a serendipitous finding that has wide implication for all of psychology—it has shown that there exists a small group of individuals (possibly 4% of the population) who fantasize a large part of the time, who typically "see," "hear," "smell," and "touch" and fully experience what they fantasize; and who can be labeled *fantasy-prone personalities.*

Wilson and Barber also stress that such individuals experience a reduction in orientation to time, place, and person that is characteristic of hypnosis or trance during their daily lives whenever they are deeply involved in a fantasy. They also have experiences during their daily ongoing lives that resemble the classical hypnotic phenomena. In other words, the behavior we would normally call "hypnotic" is exhibited by these fantasy-prone types (FPs) all

the time. In Wilson and Barber's words: "When we give them 'hypnotic suggestions,' such as suggestions for visual and auditory hallucinations, negative hallucinations, age regression, limb rigidity, anesthesia, and sensory hallucinations, we are asking them to do for us the kind of thing they can do independently of us in their daily lives."

The reason we do not run into these types more often is that they have learned long ago to be highly secretive and private about their fantasy lives. Whenever the FPs do encounter a hypnosis situation it provides them with a social situation in which they are encouraged to do, and are rewarded for doing, what they usually do only in secrecy and in private. Wilson and Barber also emphasize that regression and the reliving of previous experiences is something that virtually all the FPs do naturally in their daily lives. When they recall the past, they relive it to a surprisingly vivid extent, and they all have vivid memories of their experiences extending back to their early years.

Fantasy-prone individuals also show up as mediums, psychics, and religious visionaries. They are also the ones who have many realistic "out of body" experiences and prototypic "near-death" experiences.

In spite of the fact that many such extreme types show FP characteristics, the overwhelming majority of FPs fall within the broad range of normal functioning. It is totally inappropriate to apply a psychiatric diagnosis to them. In Wilson and Barber's words: "It needs to be strongly emphasized that our subjects with a propensity for hallucinations are as well adjusted as our

comparison group or the average person. It appears that the life experiences and skill developments that underlie the ability of hallucinatory fantasy are more or less independent of the kinds of life experience that leads to pathology." In general, FPs are "normal" people who function as well as others and who are as well adjusted, competent, and satisified or dissatisfied as everyone else.

Anyone familiar with the the fantasy-prone personality who reads *Communion* will suffer an immediate shock of recognition. Strieber is a classic example of the genre: he is easily hypnotized; he is amnesiac; he has vivid memories of his early life, body immobility and rigidity, a very religious background, a very active fantasy life; he is a writer of occult and highly imaginative novels; he has unusually strong sensory experiences—particularly smells and sounds—and vivid dreams. More interesting still is the comment made by Strieber's wife during her questioning under hypnosis by Budd Hopkins (p. 197). In referring to some of Strieber's visions she says: "Whitley saw a lot of things that I didn't see at that time." "Did you look for it?" "Oh, no. Because I knew it wasn't real." "How did you know it wasn't real? Whitley's a fairly down-to-earth guy—" "No, he isn't." . . . "It didn't suprise you hearing Whitley, that he sees things like that [a bright crystal in the sky]?" "No." It seems if anyone really knows us well it's our wives. But even more remarkable are the correspondences between Strieber's alien encounters and the typical hypnopompic hallucinations to be discussed later.

It is perfectly clear, therefore, why most of the UFO abductees, when given cursory examinations by psychiatrists and psychologists, would turn out to be ordinary, normal citizens as sane as themselves. It is also evident why the elaborate fantasies woven in fine cloth from the now universally familiar UFO-abduction fable—a fable known to every man, woman, and child newspaper reader or moviegoer in the nation—would have so much in common, so much consistency in the telling. Any one of us, if asked to pretend that he had been kidnapped by aliens from outer space or another dimension, would make up a story that would vary little, either in its details or in the supposed motives of the abductors, from the stories told by any and all of the kidnap victims reported by Hopkins. As for the close encounters of the third kind and conversations with the little gray aliens described in *Communion* and *Intruders,* again, our imaginative tales would be remarkably similar in plot, dialogue, description, and characterization. The means of transportation would be saucer-shaped; the aliens would be small, humanoid, two-eyed, and gray, white, or green. The purpose of their visits would be: (1) to save our planet; (2) to find a better home for themselves; (3) to end nuclear war and the threat we pose to the peaceful life in the rest of galaxy; (4) to bring us knowledge and enlightenment; and (5) to increase their knowledge and understanding of other forms of intelligent life. In fact, the fantasy-prone abductees' stories would be much more credible if some of them, at least, reported the aliens as eight-foot-tall, red-striped octapeds riding bicycles and intent upon eating us for dessert.

# The Power of Suggestion on Memory

IN MY OWN work on hypnosis and memory, the power of suggestion on the evocation of false memories was clearly and dramatically evident. Sixty volunteers observed a complex visual display made up of photographs of a number of common objects, e.g. a television set, a clock, a typewriter, a book, and so on, and eight nonsense syllables. They were instructed to memorize the nonsense syllables in the center of the display and were given two minutes to accomplish it. Nothing was said about the common objects. Following a 40-minute delay the students were questioned about the nonsense syllables and the other objects on display. They were also asked to state their confidence in the accuracy of their answers. Some were questioned under hypnosis and others while they were wide awake.

As a secondary part of the study the extent of the student's suggestibility was also studied. This was done by asking them to report on the common objects (as well as their primary task of memorizing the nonsense syllables) and asking specific questions about objects that *were not on the display.* Since their attention was not directed at the objects *specifically,* they were of course unsure about what they saw and didn't see. Therefore, when they were asked the questions "What color was the sports car?" and "Where on the display was it located?" they immediately assumed there must have been a sports car present or I wouldn't be asking the question. Similarly with a suggested lawnmower and calendar. Although 35 subjects reported the color of the suggested automobile in the hypnoidal condition, 34 reported the color while awake. Similarly, although 26 subjects reported the suggested lawnmower's color and position in the hypnoidal state, 27 reported its color and position while awake. For the nonexistent calendar, 24 reported the month and date while hypnotized, and 23 did so while awake.

As for suggestibility *per se* under all conditions, 50 out of 60 volunteers reported seeing something that wasn't there with a confidence level of 2 (a little unsure) or greater, while 45 out of 60 reported seeing something that wasn't there with a confidence level of 3 (sure) or greater, whereas 25 out of 60 reported seeing something that was not there with a confidence level of 4 (very sure) or greater. Finally, 8 out of the 60 reported something not there with a confidence level of 5 (absolute certainty). Interestingly enough, 5 of the 8 reported they were certain of the object's existence even though they were wide awake; and, when they were allowed to see the display again, they were shocked to discover their error (Baker, Haynes, and Patrick 1983).

—*Robert A. Baker*

Finally, what would or could motivate even the FPs to concoct such outlandish and absurd tales, tales that without fail draw much unwelcome attention and notoriety? What sort of psychological motives and needs would underlie such fabrications? Perhaps the best answer to this question is the one provided by the author-photographer Douglas Curran. Traveling from British Columbia down the West Coast and circumscribing the United States along a counterclockwise route, Curran spent more than two years questioning ordinary people about outer space. Curran writes:

> On my travels across the continent I never had to wait too long for someone to tell me about his or her UFO experience, whether I was chatting with a farmer in Kansas, Ruth Norman at the Unarius Foundation, or a cafe owner in Florida. What continually struck me in talking with these people was how positive and ultimately life-giving a force was their belief in outer space. Their belief reaffirmed the essential fact of human existence: the need for order and hope. It is this that establishes them—and me—in the continuity of human experience. It brought to me a greater understanding of Oscar Wilde's observation. "We are all lying in the gutter—but some of us are looking at the stars."

Jung (1969), in his study of flying saucers, first published in 1957, argues that the saucer represents an archetype of order, wholeness, deliverance, and salvation—a symbol manifested in other cultures as a sun wheel or magic circle. Further in his essay, Jung compares the spacemen aboard the flying saucers to the angelic messengers of earlier times who brought messages of hope and salvation—the theme emphasized in Strieber's *Communion.* Curran also observes that the spiritual message conveyed by the aliens is, recognizably, our own. None of the aliens Curran's contactees talked about advocated any moral or metaphysical belief that was not firmly rooted in the Judeo-Christian tradition. As Curran says, "Every single flying-saucer group I encountered in my travels incorporated Jesus Christ into the hierarchy of its belief system." No wonder Eduard Meier had to travel back in time and visit the Savior. Many theorists have long recognized that whenever world events prove to be psychologically destabilizing, men turn to religion as their only hope. Jung, again, in his 1957 essay, wrote: "In the threatening situation of the world today, when people are beginning to see that everything is at stake, the projection-creating fantasy soars beyond the realm of earthly organization and powers into the heavens, into interstellar space, where the rulers of human fate, the gods, once had their abode in the planets."

The beauty and power of Curran's portraits of hundreds of true UFO believers lies in his sympathetic understanding of their fears and frailties. As psychologists are well aware, our religions are not so much systems of objective truths about the universe as they are collections of subjective statements about humanity's hopes and fears. The true believers interviewed by Curran are all around us. Over the years I have encountered several. One particularly memorable and poignant case was that of a federal prisoner who said he could leave his body at will and sincerely believed it. Every weekend he

would go home to visit his family while (physically) his body stayed behind in his cell. Then there was the female psychic from the planet Xenon who could turn electric lights on and off at will, especially traffic signals. Proof of her powers? If she drove up to a red light she would concentrate on it intently for 30 to 40 seconds and then, invariably, it would turn green!

## Hypnogogic and Hypnopompic Hallucinations

Another common yet little publicized and rarely discussed phenomenon is that of hypnogogic (when *falling asleep*) and hypnopompic (when *waking up*) hallucinations. These phenomena, often referred to as "waking dreams," find the individual suddenly awake, but paralyzed, unable to move, and most often encountering a "ghost." The typical report goes somewhat as follows, "I went to bed and went to sleep and then sometime near morning something woke me up. I opened my eyes and found myself wide awake but unable to move. There, standing at the foot of my bed was my mother, wearing her favorite dress—the one we buried her in. She stood there looking at me and smiling and then she said: 'Don't worry about me, Doris, I'm at peace at last. I just want you and the children to be happy.' " Well, what happened next? "Nothing, she slowly faded away." What did you do then? "Nothing, I just closed my eyes and went back to sleep."

There are always a number of characteristic clues that indicate a hypnogogic or hypnopompic hallucination. First, it always occurs before or after falling asleep. Second, one is paralyzed or has difficulty in moving; or, contrarily, one may float out of one's body and have an out-of-body experience. Third, the hallucination is unusually bizarre; i.e., one sees ghosts, aliens, monsters, and such. Fourth, after the hallucination is over the hallucinator typically goes back to sleep. And, fifth, the hallucinator is unalterably convinced of the "reality" of the entire experience.

In Strieber's *Communion* (pp. 172-175) is a classic, textbook description of a hypnopompic hallucination, complete with the awakening from a sound sleep, the strong sense of reality and of being awake, the paralysis (due to the fact that the body's neural circuits keep our muscles relaxed and help preserve our sleep), and the encounter with strange beings. Following the encounter, instead of jumping out of bed and going in search of the strangers he has seen, Strieber typically goes back to sleep. He even reports that the burglar alarm was still working—proof again that the intruders were mental rather than physical. Strieber also reports an occasion when he awakes and believes that the roof of his house is on fire and that the aliens are threatening his family. Yet his only response to this was to go peacefully back to sleep. Again, clear evidence of a hypnopompic dream. Strieber, of course, is convinced of the reality of these experiences. This too is expected. If he was not convinced of their reality, then the experience would not be hypnopompic or hallucinatory.

The point cannot be more strongly made that ordinary, perfectly sane and rational people have these hallucinatory experiences and that such individuals

***As for the 'missing time' experienced by all the UFO abductees, this too is a quite ordinary, common, and universal experience.***

are in no way mentally disturbed or psychotic. But neither are such experiences to be taken as incontrovertible proof of some sort of objective or consensual reality. They may be subjectively real, but objectively they are nothing more than dreams or delusions. They are called "hallucinatory" because of their heightened subjective reality. Leaving no rational explanation unspurned, Strieber is nevertheless forthright enough to suggest at one point the possibility that his experiences indeed could be hypnopompic. Moreover, in a summary chapter he speculates, correctly, that the alien visitors could be "from within us" and/or "a side effect of a natural phenomenon . . . a certain hallucinatory wire in the mind causing many different people to have experiences so similar as to seem to be the result of encounters with the same physical phenomena" (p. 224).

Interestingly enough, these hypnopompic and hypnogogic hallucinations do show individual differences in content and character as well as a lot of similarity: ghosts, monsters, fairies, friends, lovers, neighbors, and even little gray men and golden-haired ladies from the Pleiades are frequently encountered. Do such hallucinations appear more frequently to highly imaginative and fantasy-prone people than to other personality types? There is some evidence that they do (McKellar 1957; Tart 1969; Reed 1972; Wilson and Barber 1983), and there can certainly be no doubt that Strieber is a highly imaginative personality type.

## "Missing" Time?

As for the lacunae or so-called "missing time" experienced by all the UFO abductees, this too is a quite ordinary, common, and universal experience. Jerome Singer (1975) in his *Inner World of Daydreaming* comments:

> Are there ever any truly "blank periods" when we are awake? It certainly seems to be the case that under certain conditions of fatigue or great drowsiness or extreme concentration upon some physical act we may become aware that we cannot account for an interval of time and have no memory of what happened for seconds and sometimes minutes.

Graham Reed (1972) has also dealt with the "time-gap" experience at great length. Typically, motorists will report after a long drive that at some point in the journey they wake up to realize they have no awareness of a preceding period of time. With some justification, people still will describe this as a "gap in time," a "lost half-hour," or a "piece out of my life." Reed writes:

> A little reflection will suggest, however, that our experience of time and its passage is determined by *events,* either external or internal. What the time-gapper is reporting is not that a slice of time has vanished, but that he has failed to register a series of events which would normally have functioned as his time-markers. If he is questioned closely he will admit that his "time-gap" experience did not involve his realization at, say, noon that he had somehow "lost" half an hour. Rather, the experience consists of "waking up" at, say, Florence and realizing that he remembers nothing since Bologna. . . . To understand the experience, however, it is best considered in terms of the absence of *events.* If the time-gapper had taken that particular day off, and spent the morning sitting in his garden undisturbed, he might have remembered just as little of the half-hour in question. He might still describe it in terms of lost time, but he would not find the experience unusual or disturbing. For he would point out that he could not remember what took place between eleven-thirty and twelve simply because nothing of note occurred.

In fact, there is nothing recounted in any of the three works under discussion that cannot be easily explained in terms of normal, though somewhat unusual, psychological behavior we now term *anomalous.* Different and unusual? Yes. Paranormal or otherworldly, requiring the presence of extraterrestrials? No. Diehard proponents may find these explanations unsatisfying, but the open-minded reader will find elaboration and illumination in the textbooks and other works in anomalistic psychology. Strongly recommended are Reed (1972), Marks and Kammann (1980), Corliss (1982), Zusne and Jones (1982), Radner and Radner (1982), Randi (1982), Gardner (1981), Alcock, (1981), Taylor (1980), and Frazier (1981).

If one looks at the psychodynamics underlying the confabulation of Hopkins's contactees and abductees it is easy to see how even an ordinary, non-FP individual can become one of his case histories. How does Hopkins, for instance, locate such individuals in the first place? Typically, it is done through a selection process; i.e., those individuals who are willing to talk about UFOs—the believers—are selected for further questioning. Those who scoff are summarily dismissed. Once selected for study and permission to volunteer for hypnosis is obtained, a response-anticipation process sets in (Kirsch 1985), and the volunteer is now set up to supply answers to anything that might be asked. Then, during the hypnosis sessions, something similar to the Hawthorne Effect occurs: The volunteer says to himself, "This kindly and famous writer and this important and prestigious doctor are interested in poor little old unimportant me!" And the more the volunteer is observed and interrogated, the greater is the volunteer's motivation to come up with a cracking "good story" that is important and significant and pleasing to these important people. Moreover, as we have long known, it is the perception of reality not the reality itself that is truly significant in determining behavior. If the writer and the doctor-hypnotist are on hand to encourage the volunteer and to suggest to him that his fantasy really happened, who is he to question their interpretation of his experience? Once they tell the contactee how important his fantasy is, he now—if he ever doubted before—begins to believe it himself

and to elaborate and embellish it every time it is repeated.

## Consequences and Summary

Many readers might feel compelled to ask: "Well, what is so bad about people having fantasies anyway? What harm do they do? You certainly cannot deny they are entertaining. And, as far as the psychiatrists' clients are concerned, whether the fantasies are true or false is of little matter—it's the clients' perceptions of reality that matter and it is this that you have to treat." True, if the client believes it is so, then you have to deal with that belief. The only problem with this lies in its potential for harm. On the national scene today too many lives have been negatively affected and even ruined by well-meaning but tragically misdirected reformers who believe the fantasies of children, the alienated, and the fantasy-prone personality types and have charged innocent people with rape, child molestation, assault, and other sorts of abusive crimes. Nearly every experienced clinician has encountered such claims and then much later has discovered to his chagrin that none of these fantasized events ever happened. Law-enforcement officials are also quite familiar with the products of response expectancies and overactive imaginations in the form of FPs who confess to murders that never happened or to murders that did happen but with which they have no connection. Another problem with the UFO abductee literature is that it is false, misleading, rabble-rousing, sensationalistic, and opportunistically money-grubbing. It takes advantage of people's hopes and fears and diverts them from the literature of science. Our journeys to the stars will be made on spaceships created by determined, hardworking scientists and engineers applying the principles of science, not aboard flying saucers piloted by little gray aliens from some other dimension.

Need we be concerned about an invasion of little gray kidnappers? Amused, yes. Concerned, no.

Should we take Strieber, Hopkins, Kinder, et al. seriously? Not really. They are a long, long way from furnishing reliable and replicable data and their rather shaky hypotheses are miles from anything resembling proof.

Should we insist that such semi-hysterical and poorly informed journalistic efforts not be published? Only if we all are a bunch of wet blankets and party-poopers. After all, it has been dull lately and these pseudoscientific thrillers have added a welcome note of excitement. And without these works there would be no puzzles to solve. As the old disclaimer says, "It's fun to be fooled, but it's more fun to know!"

Is the human mind a weird and wonderful place and human behavior a billion-ring circus of astounding events? Unquestionably, yes!

One cannot help but be struck by the thought that, in their way, the UFOnaut creations are of some redeeming value. They, besides their value as entertainment, do provide the useful—albeit unintended—service of directing our attention to the extremities of human belief and the perplexing and perennial problem we have in detecting deception. In spite of all our vaunted

scientific accomplishments, we have today no absolutely certain, accurate, or reliable means for getting at the truth—for simply determining whether or not someone is lying. Not only are the polygraph and the voice-stress analyzer notoriously unreliable and inaccurate; but the professional interrogators, body-language experts, and psychological testers are also the first to admit their lack of predictive skill. If these abductee claims do no more than stimulate greater efforts toward the development of better "truth detectors," then they will have made an important contribution.

When one man has a private conversation with an angel in the corner, we consider it hallucinatory; when twenty people simultaneously see and talk with this angel, we then have good reason to suspect it may not be hallucinatory. When one man *never* sees an angel in the corner until and unless he is hypnotized and regressed, even then such reports are not considered hallucinatory. They are merely confabulations. Nor do we classify him as psychologically disturbed or even as lying. He most likely is as normal and mentally healthy as any one of us. If he has been properly primed with powerful suggestions, he may sincerely believe in the truth of his confabulations.

When all things are considered, we shouldn't be too upset with the creators of and believers in what Martin Gardner (1987) calls "the new science-fiction religion." Tolerance *is* the mark of a civilized mind. We can nevertheless demand that the bookstores and supermarkets classify all such material properly. All UFO, UFO-abductee, past-life, and hypnotic-regression accounts should be taken from the nonfiction counters and moved to the science-fiction shelves.

## Notes

1. People familiar with the unreliability of the polygraph will not be impressed. As for Strieber's sanity, there can be no doubt of this. As *Omni* magazine reported, he received a million-dollar advance from his publisher.

2. The dictionary defines an alien as "one who is strange, wholly different in nature, incongruous. . . ."

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# The Brain and Consciousness: Implications for Psi Phenomena

*Modern brain science offers useful insights into anomalous subjective experiences like hallucinations and OBEs and is an aid in evaluating claims of ESP and of prebirth or afterlife consciousness.*

Barry L. Beyerstein

> *Men ought to know that from the brain and from the brain only arise our pleasures, joys, laughter, and jests as well as our sorrows, pains, griefs and tears. . . . It is the same thing which makes us mad or delirious, inspires us with dread and fear, whether by night or by day, brings us sleeplessness, inopportune mistakes, aimless anxieties, absent-mindedness and acts that are contrary to habit. . . .*
>
> Hippocrates (c. 460–c. 377 B.C.), *The Sacred Disease*

ANOMALOUS SUBJECTIVE experiences contribute strongly to paranormal beliefs. They may be powerful, unprovoked emotions or apparently spontaneous percepts that others cannot verify. For some these experiences are accompanied by a feeling that consciousness is estranged from the body or that an alien force is "usurping the seat of the will." These interludes are variously construed as divine or diabolical, enlightening or foreboding, a mere curiosity or a calling to a sacred mission. Those acknowledging guidance from such "revelations" range from Plato, St. Paul, Muhammad, Joan of Arc, Columbus, Mozart, and Newton, on the one hand, to Atilla the Hun, Hitler, Stalin, Idi Amin, and Charles Manson, on the other. Many ancient supernatural beliefs probably have their origins in revelations of this sort. They still nurture many mystical beliefs today (Greeley and McCready 1975).

We now know that both normal and diseased brains will generate, from

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time to time, spontaneous sensations and emotions that seem to originate externally, even in other minds. These compelling experiences continue to be cited as evidence for the paranormal, despite the cogent objections of Michael Scriven (1961), a philosopher otherwise favorably disposed toward psi phenomena.

Psychophysiologists are challenged by paranormal "explanations" for these occurrences because, if correct, the implications for the neurosciences' view of the mind-brain relationship are profound. If, as many occultists assert, mind can exist free of the body, directly influence other minds or matter at a distance, and receive information by other than the conventional senses, several fundamental tenets of neuroscience are sadly incomplete, if not totally erroneous. While I doubt that studies of allegedly paranormal anomalies of consciousness will overturn the foundations of neuroscience, they could add to our conventional understanding of perception, memory, and emotion. Such studies can also eventually help people understand the true causes of "extraordinary" experiences that seem so real to them.

It is proper to demand stronger evidence for newly tendered "facts" if accepting them entails abandoning a substantial amount of better-established data. Neuroscience cannot rule out psi phenomena, but it is difficult, logically, to embrace both.

## The Underpinnings of Neuroscience—Psychoneural Identity (PNI)

In 1949, Donald O. Hebb enunciated the creed to which an overwhelming majority of neuroscientists would still subscribe:

> Modern psychology takes completely for granted that behavior and neural function are perfectly correlated, that one is completely caused by the other. There is no separate soul or lifeforce to stick a finger into the brain now and then and make neural cells do what they would not otherwise. Actually, of course, this is a working assumption only. . . . It is quite conceivable that someday the assumption will have to be rejected. But it is important also to see that we have not reached that day yet: the working assumption is a necessary one and there is no real evidence opposed to it. Our failure to solve a problem so far does not make it insoluble. One cannot logically be a determinist in physics and biology, and a mystic in psychology. [Hebb 1949, p. xiii]

While views of determinism have modified since Hebb wrote, his conviction that consciousness is inseparable from the functioning of individual brains remains the cornerstone of physiological psychology. A discussion of the philosophical issues underlying Hebb's working assumption—psychoneural identity (PNI) theory—is beyond the scope of this paper. Several good treatments are available (Bunge 1980; Campbell 1970; Churchland 1984; Uttal 1978).

Though PNI cannot be proved empirically (cf. Malcolm 1971), psychophysiology offers an impressive array of data supporting its claim that think-

ing, perceiving, remembering, desiring, and feeling are brain functions. Research supporting mind-brain identity is summarized in numerous texts (e.g., Oakley and Plotkin 1979; Rosenzweig and Leiman 1982; Uttal 1978).

Briefly, that evidence falls into the following categories:

*Phylogenetic:* There is an evolutionary relationship between brain complexity and species' cognitive attributes (Russell 1979).

*Developmental:* Abilities emerge with brain maturation; failure of the brain to mature arrests mental development (Parmalee and Sigman 1983).

*Clinical:* Brain damage from accidental, toxic, or infectious sources, or from deprivation of nutrition or stimulation during brain development, results in predictable and largely irreversible losses of mental function (Kolb and Whishaw 1985; Sacks 1987).

*Experimental:* Mental operations correlate with electrical, biochemical, biomagnetic, and anatomical changes in the brain. When the human brain is stimulated electrically or chemically during neurosurgery, movements, percepts, memories, and appetites are produced that are like those arising from ordinary activation of the same cells (Valenstein 1973).

*Experiential:* Numerous natural and synthetic substances interact chemically with brain cells. Were these neural modifiers unable to affect consciousness pleasurably and predictably, the recreational value of nicotine, alcohol, caffeine, LSD, cocaine, and marijuana would roughly equal that of blowing soap bubbles.

Despite their abundance, diversity, and mutual reinforcement, the foregoing data cannot, by themselves, entail the truth of PNI. Nevertheless, the theory's parsimony and research productivity, the range of phenomena it accounts for, and the lack of credible counter-evidence are persuasive to virtually all neuroscientists (Uttal 1978). Brain researchers are apt to view rejections of PNI much as paleontologists do suggestions of "Creation Scientists" that the fossil record was merely "salted" in the strata by a suspicious deity to test believers' faith—possible, but credulity is strained.

The evidence for PNI is such that many parapsychologists admit the only hope for dualistic alternatives (i.e., that brain and consciousness are separable and not subject to the same natural laws) lies in documenting telepathy, clairvoyance, or psychokinesis. Given the centrality and implications of PNI, most psychophysiologists, not surprisingly, doubt the existence of disembodied minds and other psi phenomena.

## Split Brains, Brain Damage, and Consciousness

Compelling support for PNI is found when brain tracts connecting the left and right hemispheres are severed to alleviate seizures. If information is presented uniquely to one hemisphere in these "split-brain" patients, the other hemisphere is unaware of it and unable to comprehend the informed side's reactions (LeDoux et al. 1979). Two mental systems, each with independent memories, percepts, and desires, coexist in one body and are able to initiate

(with no sense of conflict) mutually contradictory actions with opposite hands (Dimond 1979).

If consciousness is not tied to brain function, it is difficult to understand how interrupting nerve tracts could compartmentalize it. If a "free-floating" mind exists, why can't it maintain unity of consciousness by providing an information conduit between the disconnected hemispheres? Parapsychologists claim that a mind can span continents to communicate with other minds; why is it patently unable to jump a few millimeters of uncoupled neural tissue?

Similarly, after brain damage, why is an allegedly separate mind unable to compensate for lost faculties when brain cells die? Having observed the devastation of brain injuries, it seems to me a cruel joke to suggest that only the input-output channels of a still intact mind have been damaged. The fortunate few who recover from reversible brain syndromes certainly recall no such serene redoubt (Gardner 1974; Linge 1980).

## Alpha and Omega

Psychobiologists are also suspicious of claims that mature consciousness exists before birth and beyond death. Alleged scientific evidence for an afterlife (e.g., Moody 1975; Osis and Haraldsson 1977) is flawed, logically and empirically (Alcock 1979; Puccetti 1979; Siegel 1981). In addition to inconsistencies and methodological defects, most survivalist claims suffer from an outmoded conception of death.

By modern neurological criteria, patients who supposedly "returned from the other side" were never dead, only resuscitated from cardiopulmonary arrest (CPA)—temporary interruption of heartbeat and respiration. Because brain cells do not cease functioning immediately following CPA, mental activity can continue (albeit degraded by oxygen/glucose deprivation and other neurochemical changes) for several minutes after the last pulse and breath are detected.

Dying is a multistage process, reversible until critical cells in the brain stem or neocortex succumb (Walker 1981). Thus a patient with a silent neocortex can still breathe and show a pulse but be clinically dead; one suffering from *temporary* CPA lacks two so-called vital signs but is not brain dead. Memories from the period before resuscitation do not entail an afterlife because, fortunately, these patients never succumbed to brain death. Irreversible breakdown of communication among critical brain cells is now the criterion of legal death in most modern societies. They have conceded a corollary of PNI—that "human life" presupposes a brain capable of sustaining the essential attributes of consciousness.

In other pseudosciences, complex cognitive and motivational capacities are ascribed to the unborn—parental conversations are allegedly comprehended by fetuses who can then suffer persistent psychological scars. L. Ron Hubbard's (1968) morbid Scientological musings about life in the womb

began as science fiction and are now marketed, appropriately, as religion, but it is especially worrisome when supposedly knowledgeable professionals make similar claims in the face of established neurological caveats. Their data generally are gleaned from "recollections" of adults with psychological complaints severe enough to require therapy. Psychiatrist Thomas Verny (1981) fashions his theories of psychopathology from what patients tell him are fetal memories. Arthur Janov (1970), founder of the suspect "Primal Scream" movement, asserts that neuroses stem from memories of birth trauma, and "rebirther" Leonard Orr offers the cure: reliving one's nativity while hyperventilating in a warm bathtub (for good critiques, see Rosen 1977). Similarly, Stanislav Grof (1985) explains sexual perversions involving excrement as consequences of contact with maternal feces while exiting the birth canal (see Richard Morrock's critique, *SI*, Spring 1986).

Memories from the womb are extremely doubtful, given the immaturity of the fetal brain. The auditory system attains rudimentary functioning by the last trimester of pregnancy, and by shortly after birth infants can be trained to make different movements in response to various speech sounds (Aslin et al. 1983). However, extrapolating from these simple abilities to the conjecture that fetuses understand adult utterances, and years later resent them, offends common sense and considerable research in child development.

Language competence emerges as certain indices of brain development reach about 65 percent of mature values (Lenneberg 1969). Newborns, let alone fetuses, are far short of this (Hirsch and Jacobson 1975; Parmalee and Sigman 1983)—the brain increases fourfold in size and weight from birth to maturity. This, coupled with research on sensory and cognitive abilities of neonates, makes the mentalities presumed by Hubbard, Verny, Janov, Orr, and Grof highly dubious.

Verny goes even further, however, asserting that "everything a woman thinks, feels, says, and hopes influences her unborn child" (quoted in Cannon 1981). This mystical bond between maternal and fetal consciousness is incompatible with PNI because there is no neural link between their brains.

While severe maternal stress during pregnancy can adversely affect offspring by altering intrauterine chemistry, it is hard to imagine how specific thoughts and feelings of the mother could reach and be recognized by the fetal brain. Verny's speculations amount to claims of telepathy between the mother and an unbelievably precocious fetal mind. They are reminiscent of old superstitions that pregnant mothers frightened by elephants have deformed babies and that those who steal bear thieves.

While psychophysiologists are merely amused by Verny's conjectures, it is unfortunate that his psychiatric credentials engender widespread trust. I have met several mothers of children with developmental disorders whose burdens he has needlessly compounded with guilt—they believed their ambivalent thoughts during difficult pregnancies must have caused their children's plight. Verny's latest enterprise is marketing soothing musical recordings for mother and unborn child, implying future benefits for her progeny.

Competent studies of childhood memory do not inspire confidence in alleged pre- or perinatal recollections (White and Pillemer 1979). There are alternative explanations for why people believe they recall life in the womb or previous incarnations (Alcock 1981; Loftus 1980; Zusne and Jones 1982). "Demand characteristics" in psychotherapy could easily extract fantasies masquerading as veridical memories (Orne 1969; Hilgard and Loftus 1979).

There is evidence that memories are stored as structural modifications in neural circuits (Squire 1986). Improbable as it is that these mechanisms would be fully functional prenatally, it is logically impossible for experiences so stored to survive disintegration of the brain. Prevalent beliefs that knowledge can be tapped from previous incarnations or from a "universal mind" (the repository of all past wisdom and creativity) not only are implausible but also unfairly demean the stunning achievements of individual human brains.

## Points of Departure

Many people believe their "psychic selves" periodically leave their bodies to retrieve distant information. If true, this would challenge PNI gravely, but critics of the literature on "out-of-body experiences" (OBEs) find the evidence unconvincing (Blackmore 1982; Neher 1980). OBE descriptions are consistent with known neural and psychological phenomena that evoke vivid hallucinations and temporarily impair reality testing. Neher (1980) even offers relaxation and imagery exercises for those wishing to experience an OBE for themselves.

In the last century, the neurologist Hughlings Jackson reported that aberrancies in the temporal lobes of the brain can produce floating, disembodied sensations, including viewing one's body from a distance (MacLean 1970). OBEs have since been produced by electrical stimulation of the temporal lobes during neurosurgery. They are also associated with a variety of drugs, epileptic seizures, hypoglycemic and migraine episodes, and neurochemical changes near death. Occasionally, OBEs occur spontaneously in normal, awake individuals, probably due to random activation of temporal lobe systems. OBEs seem less mysterious when we consider that the brain generates similar imagery during dreams and even in visual memories, where we routinely view ourselves from positions we never actually occupied. It is primarily the clarity or "realness" of the OBE (related to frontal and temporal lobe activity) that distinguishes it from related forms of imagery, including those of "daydreams," which can themselves be quite vivid (Singer 1975; Kolb and Whishaw 1985, ch. 10).

OBEs can also be triggered by miscues when the brain's arousal mechanisms shift from drowsiness to sleep, sleep to waking, nondream to dream sleep, and so on. In such a multicomponent system (Cohen 1979), occasional desynchronizations are to be expected—resulting here in dreamlike activity during quasi-wakefulness. Sleep-onset (hypnagogic) and sleep-offset (hypnopompic) images are often bizarre, but seemingly real, mixes of genuine percepts and hallucinations (Stoyva 1973).

## The Physiology of Hallucination

Except during dreams, OBEs, and so on, it is usually easy to distinguish authentic percepts from self-produced images. Occasionally it can be difficult though, because brain systems that generate images from memory share neural circuitry with those that decipher sensory input from the environment (Finke 1986). Many factors can temporarily disable higher brain mechanisms that confirm the reality status of percepts.

Hallucinations result when the sensory cortex is activated without input to peripheral receptors. This can arise from electrical or drug stimulation of the brain, hypnotic suggestion, high fever, narcolepsy, migraine, epilepsy, schizophrenia, and sensory overload or prolonged isolation (Horowitz 1975; Johnson 1978; Siegel and West 1975). Hallucinations can ensue when internal imagery overwhelms external sensory input in shared neural pathways, or when indistinct perceptual fractions are embellished in accordance with expectations and belief (Horowitz 1975). They are also possible in situations that affect our normal alternation between external vigilance and attention to imagery (used in recollection, problem-solving, day-dreaming, and so on). Strong conflict, emotional threat, fear, or desire can lend an intensely real quality to imagistic thinking. Meditation, by reducing sensory input while suppressing verbal modes of consciousness, can have similar results.

Schatzman (1980) found objective support for the notion that hallucinations are processed in the visual areas of the brain. A patient who experienced vivid hallucinations was presented with a visual stimulus. The electrical response of her visual cortex while she viewed it normally was compared to that when she hallucinated something that obscured it from view. In the latter condition, the trace of the stimulus in the recording essentially disappeared as her visual cortex began to process her hallucinated image. Simply asking her not to attend to the stimulus had no comparable effect on this "visual evoked response."

Many occult beliefs stem from the misconception that everything seen or heard must necessarily exist outside ourselves. Fatigue, stress, monotony, or fervent desire can obscure the "tags" that designate internal and external origin as messages pass through the brain—blurring thereby the demarcation between reality and fancy.

## Perception—Normal and Extrasensory

A vast literature sustains the PNI corollary that perception is a brain process (Uttal 1973). For the conventional senses (vision, hearing, taste, smell, touch) we know much about how different energies are transduced by receptors into neural codes and how brain systems distribute and analyze their content (Coren et al. 1984).

Damage to specific analyzers in the brain obliterates perception of the qualities they encode. If minds can abandon bodies and retain full awareness on the voyage, why should a mere hardware defect in the brain leave neuro-

logical patients insentient? On the other hand, if only peripheral receptors are damaged, crude prostheses are possible by stimulating the sensory cortex with patterned electrical impulses (Dobelle et al. 1974). That this evokes simple visual patterns supports PNI, but the crudity of the percepts produced[1] by even the most advanced prosthetic stimulators underscores the enormous task putative telepathic "energies" would have to accomplish in order for ESP to be compatible with PNI. A "message" bypassing conventional neurosensory routes to consciousness would still have to impose precisely patterned activity across millions of brain cells.

A theorist trying to marry ESP and PNI would need to suggest plausible mechanisms in order to respond to the following questions: (*a*) How is the "message" generated by the "sender's" brain in telepathy and by inanimate objects in clairvoyance? (*b*) What kind of energy is involved that could carry the message, without loss, over immense distances and through intervening objects?[2] (*c*) What is the propagating medium for the signal; what prevents "crosstalk" among simultaneous messages and what addresses them to recipients? (*d*) Once at the recipient, what directs the message to the appropriate sense modality—e.g., to vision rather than smell—let alone to produce a meaningful percept? (*e*) What conceivable form of energy would have the informational capacity to impose the necessary spatio-temporal patterns on the astronomical number of neurons involved in even a simple percept? How would it duplicate the subtle movements of neurochemicals across the cell membranes that constitute the neural code?[3]

These demands of PNI are rarely addressed by ESP enthusiasts. In fact, avoiding them is one of the attractions of dualism—if mind is nonphysical, these restraints need not apply. Tart (1977), to his credit, faces some of these issues, but his proposed solutions are essentially the ancient principles of Sympathetic and Contact Magic restated in high-tech jargon. He argues that "channels," "decoders," etc., for ESP must exist in the brain because ESP is an established ability, but he does not suggest where and what they might be.

Godbey (1975) is correct that proof of telepathy or clairvoyance would be insufficient, by itself, to refute PNI. The brain could conceivably be put in a physical state of "knowing something" by some as yet undiscovered material force. However, as I have argued, this would entail a form of energy quite unlike those known to physicists, operating on neural mechanisms in ways that seem equally bizarre to psychobiologists. While both may eventually be confirmed, at present they are required only to "explain" phenomena for which there are more credible naturalistic interpretations (Alcock 1981; Blackmore 1982; Marks and Kammann 1980; Neher 1980; Zusne and Jones 1982).

## The 10-percent Solution

In arguing that current theories of brain function cast suspicion on ESP, psychokinesis, reincarnation, and so on, I am frequently challenged with the most popular of all neuro-mythologies—the notion that we ordinarily use

only 10 percent of our brains. "Enlightened ones" supposedly tap the remainder for levitation, spoon-bending, precognition, telepathy, and other fantastica inconceivable to those subsisting on the drudgelike 10 percent.

Origins of the 10-percent myth are obscure, but the concept was widely disseminated in courses like Dale Carnegie's and canonized in public utterances by no less a personage than Albert Einstein. I believe the error arose from misinterpretations of research in the 1930s showing that, with evolutionary advancement, a progressively smaller proportion of the brain is tied to strictly sensory or motor duties. For methodological reasons, the enlarged nonsensory, nonmotor areas were referred to as the "silent cortex," though they are anything but silent. They are responsible for our most human characteristics, including language and abstract thought. Areas of maximal activity shift in the brain as we engage in different tasks, and there can be some reorganization of functional regions after brain damage; but there are normally no dormant regions awaiting new assignments.

This "cerebral spare tire" concept continues to nourish the clientele of "pop psychologists" and their many recycling self-improvement schemes. As a metaphor for the fact that few of us fully exploit our talents, who could deny it? As a refuge for occultists seeking a neural basis of the miraculous, it leaves much to be desired.

## Conclusion

Extraordinary claims demand extraordinary proof. There are many examples of outsiders who eventually overthrew entrenched scientific orthodoxies, but they prevailed with irrefutable data. More often, egregious findings that contradict well-established research turn out to be artifacts. I have argued that accepting psychic powers, reincarnation, "cosmic consciousness," and the like, would entail fundamental revisions of the foundations of neuroscience. Before abandoning materialist theories of mind that have paid handsome dividends, we should insist on better evidence for psi phenomena than presently exists, especially when neurology and psychology themselves offer more plausible alternatives.

## Notes

1. Stimulating the visual cortex produces dots of light that can be connected to simulate objects; stimulation of the temporal cortex produces more lifelike hallucinations but their content is not controllable.

2. Brain-generated electromagnetic fields drop to infinitesimal strength within millimeters of the scalp. Electromagnetic fields pass through many materials, but they obey the inverse square law and are blocked by appropriate shielding, neither of which is true, proponents claim, of ESP "energies," whatever they may be.

3. In normal perception, this is accomplished by known environmental mechanisms interacting with the anatomy/physiology of the sensory pathways. Different energies match selective receptors whose output travels via separate tracts to specialized cortical areas for each modality —all but the last of which are allegedly bypassed in ESP.

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# Past-Life Hypnotic Regression: A Critical View

*Experiments indicate that past-life reports from hypnotically regressed subjects are fantasy constructions of imaginative persons absorbed in make-believe situations and responding to regression suggestions.*

Nicholas P. Spanos

SOME PEOPLE who have been administered hypnotic-induction procedures followed by suggestions to regress back past their birth times report that they experienced past lives. For instance, a 22-year-old Caucasian woman, while recently "regressed" in our laboratory, claimed that the year was 1940 and that "he" (her past-life identity involved a change of sex) was a Japanese fighter pilot. How are reports of this type to be explained? The parsimonious answer is that they are suggestion-induced fantasy creations of imaginative subjects. If the subjects hold prior beliefs about the validity of reincarnation and/or if they are given encouragement to do so by the hypnotist, they may come to interpret their fantasies as evidence for the existence of actual past-life personalities.

For some (e.g., Wambach 1979), the parsimonious answer will not do. Instead, hypnotically engendered past-life reports are taken as evidence for the validity of reincarnation. Certainly this is the interpretation most commonly conveyed in popular books and articles on the topic. A few mental-health professionals also accept the reincarnation interpretation and even offer past-life therapy to alleviate problems in a client's present life that purportedly stem from unresolved difficulties in some previous incarnation (e.g., Wambach 1979).

Although "hypnosis" has gained a good deal of contemporary scientific legitimation, it continues to be uncritically conceptualized by many as involving profound alterations in consciousness (i.e., the "hypnotic trance state") that produce fundamental changes in perceptual and cognitive functioning.

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For instance, hypnotic procedures are sometimes seen as enabling subjects to transcend normal volitional capacities (e.g., to eliminate pain, to retrieve "repressed" memories) or as causing subjects to lose voluntary control over mental and behavioral functions (e.g., hypnotically amnesic subjects are supposedly *unable* rather than unwilling to remember). If hypnosis can do all of these remarkable things, then perhaps regression to past lives isn't so far-fetched after all. Thus my first concern is to examine what the available experimental data really tell us about the nature of hypnotic phenomena.

## Is Hypnosis an Altered State of Consciousness?

After more than a century of research, there is no agreement concerning the fundamental characteristics of the supposed "hypnotic trance state" and there are no physiological or psychological indicators that reliably differentiate between people who are supposedly "hypnotized" and those who are not (Fellows 1986). Despite widespread belief to the contrary, hypnotic procedures do *not* greatly augment responsiveness to suggestions. Nonhypnotic control subjects who have been encouraged to do their best respond just as well as hypnotic subjects to suggestions for pain reduction, amnesia, age-regression, hallucination, limb rigidity, and so on (Spanos 1986a). Hypnotic procedures are no more effective than nonhypnotic relaxation procedures at lowering blood pressure and muscle tension or effecting other behavioral, physiological, or verbal-report indicators of relaxation (Edmonstron 1980). Hypnotic procedures are no more effective than various nonhypnotic procedures at enhancing imagery vividness or at facilitating therapeutic change for such problems as chronic pain, phobic response, cigarette smoking, and so on (Spanos 1986a; Spanos and Barber 1976). In short, the available scientific evidence fails to support the notion that hypnotic procedures bring about unique or highly unusual states of consciousness or that these procedures facilitate responsiveness to suggestions to any greater extent than do nonhypnotic procedures that enhance positive motivation and expectation.

It is important to understand that hypnotic suggestions do not directly instruct subjects to do anything. Instead, suggestions are phrased in the passive voice and imply that something is happening to the subject (e.g., "Your arm is rising," instead of "Raise your arm"). This passive phrasing communicates to subjects the idea that they are supposed to act *as if* the effects suggested are happening automatically. In other words, hypnotic suggestions are tacit requests to become involved in make-believe or *as if* situations. A subject is tacitly instructed to behave as if he is unable to remember, as if his arm is rising, as if he is five years old, and so on. Good hypnotic subjects (*a*) understand the implications of these tacit requests, and (*b*) use their imaginative abilities and their acting skills to become absorbed in the make-believe scenarios contained in suggestions. Thus, by actively using their imaginative abilities, good hypnotic subjects can create and convey the impression that they are unable to remember, unable to lift their "heavy" arms, and so on (Spanos 1986b). The method actor who throws himself into the

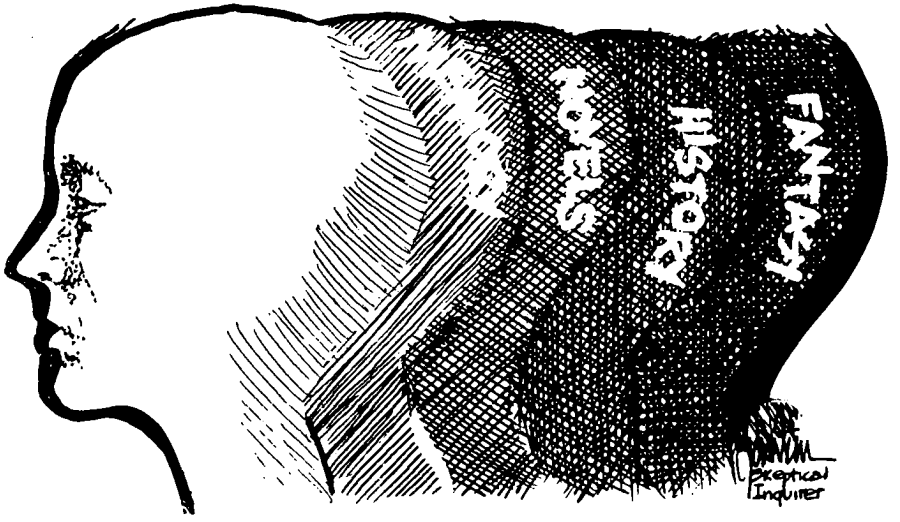
role of Richard III causes himself to experience the thoughts and emotions that are relevant to his character. Good hypnotic subjects throw themselves into generating the experiences and enactments that are relevant to their roles as hypnotized and as responsive to suggestion (Sarbin and Coe 1972).

*Hypnotic Age Regression.* Age-regression suggestions inform a subject that he is growing younger and younger and returning to an earlier time in his life. Thus a responsive hypnotic subject who is "regressed" to age five states that he is five years old, prints in block letters, and so on. Despite such performances, a good deal of research now indicates that these subjects do *not* in any real sense take on the cognitive, perceptual, or emotional characteristics of actual children (Barber, Spanos, and Chaves 1974). Instead of behaving like real children, age-regressed subjects behave the way they *believe* children behave. To the extent that their expectations about how children behave are inaccurate, their age-regression performances are off the mark. For example, adults commonly overestimate the performance of young children on cognitive and intellectual tasks. Hypnotically age-regressed subjects who are given such tasks usually outperform real children whose ages match those to which the subjects have been regressed (e.g., Silverman and Retzlaff 1986).

In short, age-regression suggestions are invitations to become involved in the make-believe game of being a child once again. People who accept this invitation do not, in any literal sense, revert psychologically to childhood. Instead, they use whatever they know about real children, whatever they remember from their own childhood, and whatever they can glean from the experimental test situation to create and become temporarily absorbed in the fantasy situation of being a child. To the extent that their information about childhood is incorrect, their regressed behavior deviates from the behavior of real children (Barber et al. 1974).

*Hidden Selves.* Just as subjects can be given suggestions for age regression, amnesia, or pain reduction, they can also be led to develop the idea that they possess "hidden selves" that they didn't earlier know about. For example, in a number of studies (cf. Hilgard 1979) good hypnotic subjects were informed that they possessed "hidden selves" that they were normally unaware of, but who the experimenter could talk to by giving the appropriate signals. When they received these signals, many of these subjects behaved as if they possessed secondary selves that had experiences that differed from those of their "normal selves." When the signals were withdrawn, these subjects often behaved as if they were unable to remember their "hidden self" experiences.

Some investigators (e.g., Hilgard) interpret such findings to mean that good hypnotic subjects really do carry around unconscious hidden selves with certain intrinsic and unsuggested characteristics. However, a good deal of evidence indicates instead that so-called hidden selves are neither intrinsic to hypnotic procedures nor unsuggested. Quite the contrary, hidden-self performances, like other suggested responses, appear to reflect attempts by motivated and imaginative subjects to create the experiences and role be-




haviors called for by the instructions they are given. By varying such instructions subjects can be easily led to develop "hidden selves" with whatever characteristics the experimenters wish. Thus, depending upon the instructions they are given, good hypnotic subjects will enact "hidden selves" that report very high levels of pain, very low levels of pain, or both high and low levels of pain in succession. Subjects can also be led to act as if they possess hidden selves that can remember concrete words but not abstract words; or the opposite, hidden selves that see stimuli accurately, see stimuli in reverse, or don't see stimuli at all, and so on (e.g., Spanos 1986a; Spanos, Flynn, and Gwynn in press).

In short, a subject who behaves as though he possesses a "hidden self," like one who behaves as if he has regressed to age five, is acting out a fantasy. The fantasy performance is usually initiated by the suggestions of the hypnotist, it is imaginatively elaborated upon and sustained by the subject, and (frequently) it earns validating feedback from the experimenter/hypnotist who interacts with the subject as if he or she really did possess a hidden self with particular characteristics.

## Past-Life Hypnotic Regression

The few experimental studies that have examined past-life regression have yielded findings that are consistent with the picture of hypnotic responding described above. For example, we recently completed two experiments on this topic. In the first, 110 subjects were tested for responsiveness to hypnotic

suggestions (i.e., hypnotizability). In separate sessions, all of these subjects were individually administered a hypnotic procedure and suggestions to regress to times before their births and then to describe where and who they were. During their individual sessions, 35 subjects enacted past lives. Each subject told the experimenter that he or she was a different person and was living in a different time. Most went on to provide numerous details about where they lived, their past-life occupations, their families, interests, and so on. Subjects who reported past lives scored higher on hypnotizability than those who did not, and were more likely than those who did not to believe that they had experienced some earlier portents of past lives (e.g., déjà vu experiences, dreams).

Among the 35 subjects who reported past lives, there were wide individual differences both in the vividness of the experiences and in the credibility that subjects assigned to them (i.e., the extent to which they believed them to be real past lives as opposed to fantasies). The vividness of past-life experiences was predicted by the subjects' propensity to be imaginative. Thus the frequency with which subjects reported vivid daydreaming and the frequency with which they reported becoming absorbed in everyday imaginative activities (e.g., reading novels) correlated positively with the vividness of their past-life experiences. The best predictor of how much credibility subjects assigned to their past-life experiences was a composite index of their attitudes and beliefs about reincarnation. People who believed in reincarnation, who thought the idea plausible, and who expected to experience past lives assigned higher credibility to their past-life experiences than did those who scored low on this index.

The past-life reporters in our first experiment almost always indicated that their past-life personalities were the same age and race as themselves and usually reported that the past-life personalities lived in Westernized societies. In our second experiment, all subjects were given general information about reincarnation. However, those in one group were further informed that it was not uncommon for people to have been of different sexes or races in past lives and to have lived in exotic cultures. Control-group subjects were given no specific information concerning the characteristics they might expect in their past-life personalities. Among subjects who gave past-life reports, those given the specific information were significantly more likely than controls to incorporate one or more of the suggested characteristics into their past-life descriptions.

Wambach (1979) contended that the historical information obtained from hypnotically regressed past-life responders was almost always accurate. To test this idea in both of our experiments we asked subjects questions that were likely to have historically checkable answers (e.g., Was the responder's community/country at peace or war?). Contrary to Wambach (1979), subjects who gave information specific enough to be checked were much more often incorrect than correct, and the errors were often the type that actual persons from the relevant historical epochs would have been unlikely to make. For

example, the "Japanese fighter pilot" described at the beginning of this article was unable to name the emperor of Japan and stated incorrectly that Japan was at peace in 1940. A different subject stated that the year was A.D. 50 and that he was Julius Caesar, emperor of Rome. However, Caesar was never crowned emperor, and died in 44 B.C. Moreover, the custom of dating events in terms of B.C. or A.D. did not develop until centuries after A.D. 50.

Kampman and Hirvonoja (1976) also obtained support for the fantasy-construction hypothesis. After obtaining past-life reports from hypnotic subjects these investigators encouraged subjects to connect various elements of their past-life descriptions with events in their current lives. In this way they often uncovered the sources of information used by subjects to construct their fantasies. We obtained similar findings. For instance, during a post-hypnotic interview, the subject who reported having been Julius Caesar indicated that he was taking a history course and found the section on ancient Rome particularly interesting. Other subjects reported post-hypnotically that, during the previous summer, they had visited the countries where their past-life personalities resided, or suddenly remembered that their past-life wives resembled and had the same names as old girlfriends from their current lives, and so on.

In summary, the available data strongly indicate that past-life reports obtained from hypnotically regressed subjects are the fantasy constructions of imaginative subjects who are willing to become absorbed in the make-believe situation implied by the regression suggestions. Not surprisingly, subjects who responded well to other hypnotic suggestions (high hypnotizables) were also relatively likely to respond to regression suggestions. Moreover, those with the most practice at vivid daydreaming and everyday fantasizing were the ones who created the most vivid past-life fantasies. As do subjects who are asked to regress to childhood, past-life reporters construct their fantasies by interweaving information given in the suggestions with information gleaned from their own life experiences and from what they have read and heard that was relevant to their performances. Moreover, just as age-regressed subjects incorporate misinformation into their enactments of being children, so past-life reporters incorporated historical misinformation into their past-life enactments.

People continually interpret their current experiences in term of established conceptual categories. Consequently, whether people interpreted their past-life experiences as real or imaginary depended upon whether they possessed a belief system that accommodated the notion of real past-lives. Those who believed in reincarnation possessed such belief systems, and therefore were relatively likely to interpret their past-life experiences as veridical rather than imaginary.

Since the classic case of Bridey Murphy (Bernstein 1956), the notion of regression to past lives has been legitimized by common and strongly held misconceptions about the nature of hypnotic responding. A more empirically based conceptualization of such responding that emphasizes its goal-directed

nature, its *as if* qualities, and its embeddedness in a nexus of social communications allows past-life enactments to be seen for what they are—interesting and imaginative contextually guided fantasy enactments.

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# Fantasizing Under Hypnosis: Some Experimental Evidence

## *A stage-performer's firsthand view*

Peter J. Reveen

VERY LITTLE has been written about the tendency of subjects under superconsciousness (a terminology I consider less misleading than "hypnosis," with its Svengali implications) to do anything within reason to please the operator. Where no adverse real-world consequences can be detected, the subject feels a strong inner compulsion to go through the motions of obeying, even when the only way he can do so is by simulating whatever effect he thinks the operator expects. Too little attention has been paid to the "pleasing the operator" element of phenomena that appear to support theories of hypnotism that are simply not true.

In my performances I sometimes demonstrate past-life regression for my audience's entertainment, later explaining why they have *not* seen evidence for the reality of reincarnation. Usually, to make the demonstration more interesting, I tell my volunteers that they will recount their experiences from a time when they were closely involved with significant persons or events from history. Since for every person with a close involvement with the great events of history there are thousands with no such involvement, most subjects would, despite my instructions, be obliged to recount past lives as "nobodies"—if the past-life memory was genuine. Yet the subjects always obediently identify themselves as the kind of "somebody" I had suggested they should be. Why? Because I had indicated my expectations and they had accordingly conformed to those expectations.

In suggesting to a stageful of volunteers that they are going to relive "past

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*Peter Reveen, known professionally as "Reveen the Impossiblist," is a stage performer who used to bill himself as a "Concert Hypnotist" before he renamed his show "The Superconscious World," for reasons mentioned in the article. He lives in Las Vegas, Nevada. This article is an excerpt, slightly rewritten, from his book,* The Superconscious World, *just published by Eden Press, Montreal.*

lives," I carefully avoid giving the impression that I have any doubts about the reality of reincarnation, for then a sizable number of volunteers would pick up on my disbelief and fail to fantasize at all—and I am, after all, in the business of entertaining an audience. Consequently, night after night dozens of volunteers give detailed, entertaining descriptions of imagined past lives that are partly enhanced dormant memories from their present lives, partly elaborations of historical books and movies encountered also in their present lives, and partly pure fantasy.

In one show two men at the same time claimed to be King Henry VIII of England. Clearly, for either one to be recalling a genuine former incarnation, the other must have been fantasizing. Another time two subjects, a man and a woman, both claimed to be Christopher Columbus. And once, in 1985, I even had a subject "regress" to a past life in which he was Prince Charles, husband of Diana and son of Queen Elizabeth II. At least he was younger than the real Prince Charles (still alive and in good health at this writing).

While I was performing in New Zealand in 1984, I happened to witness an experiment conducted by psychologist David Marks of Otago University (now at University College London) for a television documentary on hypnotism. Marks obtained the cooperation of three secretaries from the television station who had been shown to be susceptible to suggestion. After a few preliminary experiments at the television-station offices, he invited all three to lunch, giving them no hint that the main experiment was still in progress. As the four pulled to a stop in front of the restaurant and alighted from his car, an "armed robbery" was committed by three people at a service station directly across the road. The three secretaries had a clear view of the entire proceedings. They saw the thieves complete the rather noisy robbery and get away in a car.

In front of the police and executives from the television studio, Marks reintroduced each of the three subjects separately into the state of suggestibility. All three gave a most detailed description of the crime, including the number of perpetrators, the make and color of the car, and other relevant details. None of the three agreed with either of the others. The color of the car varied in the three accounts, as did the number and sex of the robbers. Each retelling brought out fresh contradictions, and none of the secretaries' accounts was close to the actual facts of the event.

In fact the robbery was a simulation, conducted for the sole purpose of measuring the accuracy of "hypnotic" memory enhancement. The comparison of the true event with the three widely different "hypnotized witness" accounts destroyed once and for all the conceit that testimony given under hypnosis is as reliable as a photograph. The danger of presenting such testimony to a jury conditioned to believe that "a hypnotized person cannot lie" should be self-evident.

A superconscious subject feels compelled to please the operator. Thus, when faced with clear evidence that a detective wants him or her to "recall" details of a crime, the subject will oblige by the only means possible, by fantasizing. An investigator who wants a witness to identify a particular suspect is likely, consciously or unconsciously, to convey his wishes to the subject. In such a case it is by no means unlikely that the subject will fantasize the appropriate recollection for the purpose of pleasing the operator. He does so because he implicitly believes, at all levels of awareness, that a police officer who "knows" who committed a crime must be right. Fantasizing a memory that corroborates what the police already "know" therefore helps the cause of law and order. More important, it gives the superconscious subject the contentment that comes from telling the operator what he wants to hear, even if what he wants to hear is pure invention.

The same "pleasing the operator" syndrome helps to explain why a suggestible subject, when hypnotized by a person known to be associated with flying-saucer cults, often tells of being kidnapped and taken aboard a space craft by funny-looking aliens. •

# The Verdict on Creationism

## *The Supreme Court's ruling is a victory not only for evolution but for teachers.*

Stephen Jay Gould

H. L. MENCKEN, who attended the Scopes "Monkey Trial" in 1925, wrote of William Jennings Bryan, counsel for the supporters of Tennessee's anti-evolution law: "Once he had one leg in the White House and the nation trembled under his roars. Now he is a tinpot pope in the Coca-Cola belt and a brother to the forlorn pastors who belabor halfwits in galvanized iron tabernacles behind the railroad yards."

Americans, like people of all cultures, I suppose, have been deluged throughout history with our share of Philistines and Yahoos. We tend, as Mencken did, to treat the fundamentalist anti-evolution movement as a primary example of Know-Nothingism, an aberrant phenomenon meriting only our ridicule. But it would be a bad mistake to banish these important chapters of American history to the sidelines of humor.

One such prominent chapter ended before the United States Supreme Court in June. By a decisive 7-2 vote, the Court struck down the last bill in a long lineage, the Louisiana act specifying "equal time" in the classroom for "creation science" if evolution were taught.

The legal battle over teaching evolution in public schools has passed through three broad phases. The laws of the Scopes era simply barred the teaching of evolution outright. The Supreme Court finally struck down this strategy in 1968, but only after these laws had enjoyed 40 years of effectiveness in muzzling the presentation of evolution in public schools.

Since they could no longer ban evolution, fundamentalists then adopted a

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new strategy of legislating equal time for teaching the sectarian, literal interpretation of the Book of Genesis that they call "creationism." The initial "equal time" laws were at least honest in the sense that they properly identified creationism as a religious alternative to evolution. These statutes were soon struck down.

The phase-two defeats restricted the legal options of fundamentalists to a third strategy. They invented a bogus subject called "scientific creationism"—simply the old wolf of Genesis literalism lightly clothed in a woolly patina of supposed empirical verification.

But a new name couldn't hide the unaltered content and context. Only Arkansas and Louisiana passed laws mandating equal time for "evolution science" and "creation science." The Arkansas law was struck down after a full trial that included my own testimony as a witness. Federal District Court Judge Adrian Duplantier then struck down the Louisiana law without trial. The state appealed to the United States Supreme Court.

On June 19, the Supreme Court declared the Louisiana act unconstitutional. Justice Byron White, in his one-page concurrence with the majority, expressed the heart of the matter with beautiful succinctness. "This is not a difficult case. . . ," he wrote. "The teaching of evolution was conditioned on the teaching of a religious belief. . . . The statute was therefore unconstitutional under the Establishment Clause."

We who have fought this battle for so many years were jubilant. The Court, by ruling so broadly and decisively, has ended the legal battle over creationism as a mandated subject in science classrooms. I do not think that the fundamentalists can invent a fourth strategy.

But we should not suspend the vigilance that is truly, as the old saying goes, the price of liberty. The larger struggle is not over and will never end so long as our present traditions and divisions endure. Creationists have a panoply of other plans for combat—lobbying textbook publishers to dilute material on evolution and persuading local school boards to adopt their own publications, for example. But the legislative strategy, their linchpin ever since the Scopes trial, is kaput, at least for our generation. This great episode of American history is finished, in the literal meaning of the word—not simply terminated, but completed, because its goal (the Latin *finis*) has been reached.

The creationists' call for equal time for their "alternative science" was a ruse and a sham on two fronts. We must understand both to ward off whatever future attacks they might muster against the rule of reason.

First, the history of legal battles reveals the narrowly sectarian religious motive of those seeking a legislative mandate for "creation science." But an identification of purpose is not sufficient to invalidate creationist legislation, for good arguments may have dubious motivations. Creation science might be promoted only for the purpose of sneaking Genesis literalism into science classrooms, but it might also be true.

Rather, the exposure of a creation science as a sham requires a second and, for me, far more important argument: a critique of *content*. If we only

laugh with Mencken, we fall to the fundamentalists' level of verbal jousting. We must uphold the dignity of our intellectual traditions by analyzing their arguments.

The argument that the literal story of Genesis can qualify as science collapses on three major grounds: the creationists' need to invoke miracles in order to compress the events of the earth's history into the biblical span of a few thousand years; their unwillingness to abandon claims clearly disproved, including the assertion that all fossils are products of Noah's flood; and their reliance upon distortion, misquote, half-quote, and citation out of context to characterize the ideas of their opponents.

Against these negative assessments, we must counterpose the overwhelming judgment provided by consistent observations and inferences by the thousands. The earth is billions of years old and its living creatures are linked by ties of evolutionary descent. Scientists stand accused of promoting dogma by so stating, but do we brand people illiberal when they proclaim that the earth is neither flat nor at the center of the universe? Science *has* taught us some things with confidence! Evolution on an ancient earth is as well established as our planet's shape and position. Our continuing struggle to understand how evolution happens (the "theory of evolution") does not cast our documentation of its occurrence—the "fact of evolution"—into doubt.

But creation science is also a sham because the professed reason for imposing it upon teachers—to preserve the academic freedom of students to learn alternative viewpoints—is demonstrably false. Creationists are right in identifying academic freedom as the key issue, but they have the argument perversely backward.

It was their law that abridged the most precious meaning of academic freedom, the freedom of teachers to follow the dictates of their consciences, their training, and their professional commitments. Creationists claim that their law broadened the freedom of teachers by permitting the introduction of controversial material. But no statute exists in any state to bar instruction in "creation science." It could be taught before, and it can be taught now.

"Creation science" has not entered the curriculum for a reason so simple and so basic that we often forget to mention it: because it is false, and because good teachers understand exactly why it is false. What could be more destructive of that most fragile yet most precious commodity in our entire intellectual heritage—good teaching—than a bill forcing honorable teachers to sully their sacred trust by granting equal treatment to a doctrine not only known to be false, but calculated to undermine any general understanding of science as an enterprise?

This victory belongs to the teachers. Not to us few who thrive unharassed in elite universities, but to those thousands who labor without adequate recompense or recognition in the nation's public schools, and who uphold, often at personal peril and for no reward beyond its righteousness, the ideal that truth—to which we so feebly aspire in all our mortality—shall make us free.

"Let us now praise famous men," proclaimed Ben Sira, the author of Ecclesiasticus. But our teachers are, for the most part, anonymous. John Scopes won an undesired immortality and then, with fierce dignity, refused to exploit what he recognized as a transient and accidental fame. (He became a geologist and lived quietly in Shreveport, in the state that eventually precipitated his posthumous vindication last month.) Ben Sira presents a long list of the worthy but singles out the teacher for special praise: "He will grow upright in purpose and learning. . . . He will display the instruction he has received. . . . The assembly will celebrate his praises. . . .

Yes, let us celebrate for the teachers; this Supreme Court decision rightly belongs to them. They are truly "the glory of their times." •


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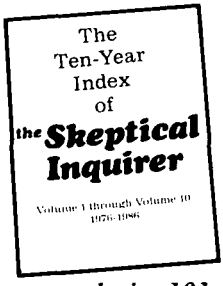


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# Forum

## Sensory Thresholds And the Concept of 'Subliminal'

WHAT DOES it mean to say that something is "subliminal" or that it is "below threshold?" Does it mean that the something is below the limits of conscious perception?" (It does not!) What is a sensory threshold if not the "barrier between conscious and unconscious experience"? Confusion over the meanings of the words *threshold* and *subliminal* is the rule: Even the majority of experimental psychologists do not know their precise definitions, and widespread misunderstanding of their definitions helps set the stage for many of the sensational claims about allegedly subliminal influences over our thoughts and behavior.

Recent articles by Loren Pankratz and by Thomas Creed (*SI*, Summer 1987) critique some frequent allegations about the power of subliminal influences. They both discuss the idea that many times *there is no message* subliminally embedded in an otherwise innocent background: Sometimes nothing is there. And they both discuss the idea that a clearly perceived, unambiguous message, such as one urging you to "Stick to your diet" or "Don't even think about shoplifting in this store" is more likely to influence your behavior than an allegedly subliminal message, even if it is present. Anyone seeking more information on these issues should read the excellent article "Subliminal Messages: Between the Devil and the Media," by John R. Vokey and J. Don Read in *American Psychologist* (40, 1985, pp. 1231-1239).

I agree with most of what Pankratz and Creed say about allegedly subliminal influences. But even Creed, who is an experimental psychologist, gives a mistaken definition of "subliminal." He says, "Subliminal perception would, by definition, require stimuli that by their very nature could not be consciously perceived." To the contrary, "conscious perception" of subliminal stimuli is both expected and normal, as can be seen by examining the experimental procedures, or operations, by which a threshold is defined. Those procedures are *very* simple —so simple that many people, including experimental psychologists, are lulled into believing they understand the concept of "threshold," when, in fact, they grossly *misunderstand* it, leaving the door open for subliminal mumbo-jumbo. Let's imagine our way through a session in which a threshold is "measured." In this example, our auditory threshold for a particular frequency of sound will be measured.

The experimenter asks us to sit in a quiet room. Then she presents a brief "beep," which we hear very clearly. Following her instructions, we say, "Yes," to indicate that we heard the sound. She turns the intensity of the sound down one "notch" on her control panel, then

presents another, weaker beep. Again, we say "Yes." This procedure continues until she finally presents a beep at an intensity we do not hear: At that point, we say "No," and she makes note of the intensity. Then she turns the sound up to a high intensity and begins the series again, progressively reducing the beep, until we again say "No." After many such series, she describes the results:

> For some (high) intensities, we *always* say "yes."
>
> For some (low) intensities, we *always* say "no."
>
> For intensities between those extremes, we sometimes say "yes," sometimes "no." The closer a given intensity is to the strong end of the intensity scale, the more likely we are to say "yes," and the less likely to say "no"; the closer to the weak end, the more likely we are to say "no," and the less likely to say "yes."
>
> There is an intensity for which we say "yes" half of the times it occurs and "no" the other half. Following the convention proposed by Gustav Fechner, in 1860, that intensity is (arbitrarily) defined as our *threshold* for this particular sound. In German, which was Fechner's native language, "threshold" translates as "limen," so this is the *liminal* intensity.

Once we know the threshold intensity, all intensities *greater* than that are, by definition, *above threshold,* or *supraliminal.* And all intensities *below* the limen are *below threshold,* or *subliminal.* Notice that *nothing* in these definitions refers to the threshold as "the barrier of consciousness," or as "the point below which perception does not occur." Those ideas are false and cannot be demonstrated experimentally. Instead, there is one intensity that we say we hear, or do not hear, equally often: that is the threshold. For an intensity slightly greater we will say yes slightly more often than we say no. And for one slightly weaker, we will say no slightly more often than yes. When we hear that slightly weaker sound, our perception is, technically, *subliminal;* but that has absolutely no connotations of our perception being "unconscious" or otherwise mysterious. In fact, for one of the intensities just below threshold, we will hear the sound 45 percent of the time; for one a little weaker, 33 percent of the time; for one weaker still, 21 percent; and so on, all the way down to the intensities for which we never say yes.

As you might guess, a large body of research shows that the less likely we are to hear a given sound, the less likely it is to influence our behavior: even behavior as simple as saying, "Yes, I heard it." How much less likely that such a sound can exert powerful or mysterious influences over us, as is claimed by proponents of subliminal influences!

In "signal detection theory," which is a more recent version of psychophysics than the one in Fechner's threshold theory, the concept of sensory thresholds is abandoned altogether. People adopting this interpretation of perception see no need for invoking the theoretical concept of a threshold. Consequently, when one uses the experimental procedures associated with signal detection theory, one finds no limen, and there are no "subliminal" perceptions.

There is more to psychophysics than I discuss here; but I hope my brief remarks give some people a clearer understanding of the frequently *mis*understood terms *threshold* and *subliminal.*

*—Tom Bourbon*

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*Tom Bourbon is a psychologist trained in sensory psychology and physiological psychology. He is in the Department of Psychology at Stephen F. Austin State University, Nacogdoches, TX 75962.*

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# Questionable Publishing Judgments

IN THE ATMOSPHERE of big-bucks horse-racing that seems to surround much of book publishing today, it's easy to get carried away. Books that would once have looked like dubious propositions because of their glibness, their sloppiness, their lack of research, or their willingness to pander to the most credulous of readers now find prompt publication if they seem likely to turn a fast dollar. Are some publishers metamorphosing into snake-oil salesmen, eagerly peddling pseudoscience, self-aggrandizement and easy scare stories? . . . We're not accusing publishers of criminal greed or of deliberately leading their readers astray; it seems to be mostly a question of thoughtlessness. We're simply saying, in effect: Doing this book in this way, or with this particular writer, or advertising it like this may not be the wisest or most ethical thing to do. Was the publishing decision thought through in all its implications, or was a lot simply taken for granted in a highly competitive marketplace?

. . . One of the penalties—as well as the glories—of being a book publisher is that you are called upon to be in many ways the repository of a culture; through you human knowledge is passed along, through you the best of what has been thought and said remains ever available. So you are much more than mere entertainers. And it is precisely at the point where mere entertainment passes over into instruction, or enlightenment, or the formation of a philosophy or attitude, that a peculiarly difficult balance must be achieved.

For as publishers your work carries powerful and unique authority. People never believe what they see in movies anyway, and music is just music. But words printed on paper and bound between covers are irrevocable and permanent; they can be brought back over and over for restudy, so that whatever message they bear does not fade and cannot be easily forgotten. And, because books are so much a part of the educational process for everyone, their content carries a great deal of often unearned weight.

So, yes, a publisher should think long and hard before he prints as truth something that may be only entertaining conjecture, before he passes along superstitious nonsense as serious scientific theory. Book publishers should be several cuts above the editors of supermarket newspapers in their respect for their readers; so is it a good idea for them to offer platforms for Mafia figures to "tell their story," for actors to rehash their often imaginary love lives, for "biographies" based on innuendo? Even in fiction there are roads that should not always be so easily taken. . . .

We're not calling for impossible virtue in a world notably short of it—simply suggesting that publishers should see themselves as important and influential citizens who should behave accordingly in the books they choose to publish. It is not so many years ago that a group of academic editors at Macmillan rose up as one against that house's publication of a highly questionable book called *Worlds in Collision.* They could not in good conscience condone it. Can one imagine a similar action in any house today, when books much more foolish and reprehensible are far more common? One can't; and that's a sad thought.

*—John F. Baker*

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*John F. Baker is editor-in-chief of* Publishers Weekly, *where this editorial first appeared (August 4, 1987), in longer form. Reprinted with permission.*

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# Past/Present

## Carl Jung's Pragmatic Use of Astrology

I. J. Good

SOME ASTROLOGERS are fond of stating that psychologist Carl Jung "believed in astrology," but in reality he merely used astrology as a therapeutic tool. This is shown by a letter of considerable historical interest that Jung's friend Edgar Wind wrote to me in January 1970, in reply to a letter from me. The reader will perhaps be reminded of the article by Geoffrey Dean in the SKEPTICAL INQUIRER, 11 (1986), 166-184.

Edgar Wind (b. May 14, 1900, d. September 11, 1971) was professor of the history of art at the University of Oxford and a fellow of Trinity College Oxford from 1956 to 1967, after which date he was an honorary fellow. There is a biography of Wind in *Who's Who, 1959* and a highly laudatory obituary in the Trinity College Report for 1971. This obituary says that "his ability to fill the Playhouse to overflowing with his lectures has become legendary. . . . He seemed to exercise almost magical powers. . . ." and later refers to his "passions for exactness in scholarship."

Here are the texts of the two letters.

January 1, 1970

Professor Edgar Wind
Trinity College
Oxford, England

Dear Edgar,

A few years ago, in a conversation involving James Lambert, you mentioned a discussion you had with Jung. As far as I can recall, Jung admitted to you that his mystical views were expounded for pragmatic reasons only, that is, because they had therapeutic value, and that he did not really believe them. I hesitate to quote this without confirmation from you, together perhaps with any elaborations or modifications that you can remember.

I hope you are having an active and fulfilling retirement and I would be surprised if you were not.

With kind regards and best wishes for 1970,

Jack Good

12 January 1970

Dear Jack,

It was delightful to hear from you.

The conversation with Jung (which took place in the middle thirties in London) was confined to one subject—astrology. He explained that he had calculated his own horoscope and, by doing so, had learned a great deal about himself; and that he often recommended it to his patients, who likewise learned a great deal about themselves by that method. I then asked him whether he meant that astrology (as the official practitioners assert) is a science that enables you to predict future events, or merely that a horoscope can be used as a schematic substratum—just as coffee grounds or a pack of cards is used by prophetic gypsies, or a crystal by a crystal-gazer—to arouse the imagination and project into the schema certain images that unconsciously occupy your mind. He burst out laughing and said that of course he meant the second, but that if he told that to his patients it would not work. I replied that, in view of the fact that I was not his patient, he should perhaps not use with me the same mystifying language that he might find appropriate in the consulting room. But he did not agree with that at all. What was good for his patients and for himself was good for everybody, and if I declined to calculate my own horoscope, this merely showed that I had a resistance to learning to know myself a little better.

To say, as you suggest, that he told his patients some fairy tales in which he did not believe himself is, I think, too simple and much too rational. He believed that his schemata (or whatever you want to call the hocus-pocus) were *effective*, and that was all that interested him about them. His talk and his writings are not critical, in the sense in which you and I would expect a scientist to be critical. They are the effusions of a medicine-man, who has found by experiment, on himself and on others, that the calculation of a horoscope can have a cathartic effect. Therefore he recommends horoscopes, and that is all.

Incidentally, I must say in his favour that he was the only psychoanalyst of any school, whom I ever found to have a sense of humour. . . .

Retirement is bliss.

Best wishes for 1970,

Yours,
Edgar Wind

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*I. J. Good is University Distinguished Professor of Statistics and Adjunct Professor of Philosophy at Virginia Polytechnic Institute and State University, Blacksburg, VA 24061.*

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# Book Reviews

## Examining the Transcendental Temptation

*The Transcendental Temptation: A Critique of Religion and the Paranormal.* By Paul Kurtz. Prometheus Books, Buffalo, N.Y., 1986. 500 pp. $19.95 cloth.

James E. Alcock

> Birth, copulation and death.
> That's all the facts when you come to brass tacks;
> Birth, copulation and death.
>
> —T. S. Eliot,
> *Sweeney Agonistes* (1932)

IS THERE no more to human existence than birth, death, and reproduction? Are our lives nothing more than small cogs on some giant evolutionary wheel that grinds inexorably onward, relying upon our reproductive success or failure to guide it toward ecological adaptivity? While this may be so for the other creatures, surely there is more to human life. Otherwise, given that we will all be dead and most of us forgotten a hundred years from now, why bother putting up with pain, sorrow, or unrequited love, and why struggle against personal hardship or societal injustice? Why suffer the "slings and arrows of outrageous fortune" if we can stop our suffering and bring our lives to an end, in the overall scheme of things, only slightly ahead of the pack?

But how can we be so sure that death means the end of our existence? How can we be so sure that the physical world that we perceive with our senses is the only reality? What if this life is but one stage in an everlasting life? What a comfort it might be if we and our loved ones live on after death. What a comfort, too, if there is some divine and beneficent purpose to the universe and to our lives. What solace if "God's in his Heaven and all's right with the world."

This is what Professor Paul Kurtz calls the *transcendental temptation:* the seductive lure of belief systems that satisfy the wish for certainty, security, and salvation, a wish that Kurtz says "gnaws at the marrow" of most of us. So strong is this temptation that virtually every society throughout history has erected systems of belief that

*James E. Alcock is a professor of psychology at Glendon College, York University, Toronto, and the author of* Parapsychology: Science or Magic?

invest life with value by denying the finality of death.

In *The Transcendental Temptation,* Kurtz probes this enduring need for transcendental belief systems and explores the question of whether societies can survive without them. In so doing, he critically examines both the miraculous claims of the principal figures of three of the world's major religions (Judaism, Christianity, and Islam) and modern miraculous claims associated with parapsychology. Kurtz is a proponent of secular humanism as a rational alternative to such belief systems; and, in part, this is what the book is about: If we are able to overcome the transcendental temptation, then we need an alternative belief system based on critical thinking that can serve as a rational foundation for ethical thought and decision-making, and that can make life meaningful despite ultimate personal mortality.

While Kurtz believes that death signals the end of the human personality, he does not share the gloomy pessimism such a view might well engender in most people. He describes himself as an optimist, finding beauty and goodness in life, and finding reason to live even if there is no escape from personal annihilation at death. He argues not only that the doctrine of immortality is not necessary to give meaning to life but that it actually serves to impoverish such meaning; since, if we survive forever, this life has little importance and we should base our actions only on whatever is necessary to gain advantage or win favor in the life to come.

The book is divided into four sections. In Part I, Kurtz explores skepticism as an approach to understanding the universe and life. He contrasts two conflicting approaches to the ultimate nature of reality. First, there is the empirical, rationalistic, scientific viewpoint, which is inherently skeptical about any claims that the universe is divine in origin. Second is the transcendental, theistic viewpoint, which explains the origins of the universe in terms of some divine entity or entities. In considering these two approaches, Kurtz argues that we have but two choices—either we barter our lives to destiny or we adopt the stance of the skeptic. Kurtz traces some of the history of skepticism and examines the scientific method in some detail, taking issue along the way with relativist philosophers of science like Feyerabend. He argues that there is no simple, unitary process that scientists invariably follow. Rather, science is defined by its insistence upon validation and verification of knowledge claims. He also explores what he refers to as "critical intelligence," a term he employs in preference to terms like *reason, rationality,* and *rationalism,* which have overtones of cold,

calculating, mechanical thought. Critical intelligence, he says, is "a capacity or disposition of mind, a method, attitude, or approach that can be used to understand, discern, and assess relationships and cope with problems." He suggests that the capacity for critical intelligence is deeply embedded in human nature and is essential for each person's survival.

Kurtz lists 21 intellectual skills, including such things as "logical ability," "poetic metaphor," "moral insight," and "common sense," that contribute to critical intelligence. He argues that an individual may possess some of them and not others. While philosophers, since antiquity, have speculated about the makeup of the human intellect, psychologists are generally uncomfortable with such speculation, for there is no body of empirical research to support this catalogue of intellectual skills. Nor would most psychologists be at ease when Kurtz suggests that there may be glandular or even genetic factors that predispose some people to crave security in belief or when he states that "psychologists estimate that approximately 80 percent of a person's native intelligence is due to inheritance and that 20 percent is acquired" (p. 62). In tackling the makeup of intellect and in speculating about the nature-nurture issue, Kurtz places himself in a position of controversy that, at least to a psychologist, detracts somewhat from his theme. However, despite this rather uninhibited psychological theorizing, his superordinate message about the central importance of critical intelligence is a very important one.

Kurtz describes various foundations upon which individuals and societies erect their beliefs. These include (1) deference to custom; however, in modern societies, Kurtz says, people are wrenched from their customary framework and bombarded by conflicting beliefs and value systems; (2) appeals to emotion; but, he says, our emotional states cannot and do not verify a proposition; (3) appeal to authority—yet authorities can mislead, and appeal to authority can sometimes inhibit progress in understanding; (4) subjectivism and intuition, which involves the possibility of forms of private knowing that are not amenable to logic or scientific research; and (5) faith. Kurtz discusses several forms of faith and warns that religious beliefs, especially when false, can have negative and deleterious effects through limiting our choices and narrowing our horizons.

Part 2 is devoted to an exploration of mysticism and religious belief. This to me is the most interesting section of the book, and Kurtz's analysis, particularly when he deals with historical religious figures, is brilliant. He first focuses on the central role that mystical experience plays in religion, and he offers some possible naturalistic explanations for such experiences. Then he provides a detailed analysis of three of the outstanding religious figures of all time—Jesus, Moses, and Muhammad. He approaches these figures from the point of view of a historian seeking to understand how each of them has come to be the object of reverence and devotion for hundreds of millions of people around the world. With all of them, and the religions that built up about them, the "argument from revelation" is central, Kurtz says. This argument takes the following form: Some divine being has manifested himself to a specially appointed prophet and has communicated through him some important messages to humanity. These messages make known to the world the supreme being's wishes and commandments. On the basis of these revelations, apparently from God, it is argued not only that God exists but that people who follow the prophet can gain salvation and eternal happiness.

Kurtz argues that none of the claims to revelation should be taken to be true for two reasons: First, the various revelations stand in clear contradiction to one another. Which, then, are genuine and which are false? Second, he says, they "egregiously

violate certain elementary canons of common sense and inductive evidence as the latter are used in ordinary life and in science" (p. 279). The various claims are uncorroborated. For example, Moses was alone on Mount Sinai each time he claimed to have encountered God, and Muhammad was alone when he met the angel Gabriel. Although Muhammad had trouble convincing his neighbors of his divine mission, all of the Islamic faith is based on his repeated ecstatic trance experiences, experiences that are not open to verification by others. None of the authors of the New Testament even knew Jesus directly; the Gospels are based on hearsay accounts, accounts that sometimes are in contradiction.

Kurtz finds reason to suspect that Moses, Jesus, and Muhammad may all have employed conjuring skills to stimulate belief in their suggestions that they were agents of a Supreme Deity, and he is even able to propose where they may have acquired such skills. Considering that Uri Geller was able to convince some modern-day scientists of the reality of his miracles, it surely would have been easy enough for charismatic religious leaders to do so in centuries past.

Unless one happens to be a doctrinaire Christian, Jew, or Muslim, in which case his words are heresy of the worst sort, Kurtz's discussion of what is known of the lives of each of these three religious figures is both fascinating and disturbing. It is fascinating in that it makes one realize just how extraordinary it is that any single individual was able to generate an impact on his society that was not only sustained but amplified across hundreds and even thousands of years. It is disturbing because it forces one to ask what prevents other individuals even today from becoming similarly endowed with such power. There have been some latter-day parallels, and Kurtz discusses the lives of some of them: for example, Joseph Smith, founder of the Mormon faith, who in Kurtz's analysis was a simple fraud; Ellen White, founder of the Seventh Day Adventists, whose so-called divine revelations came not from some divine being but through plagiarizing other writers. The reader need only think of other, more recent "religions" (consider, for example, Hubbard's Scientology and Moon's Unification Church) to realize how vulnerable our society continues to be to people who claim to have unique knowledge of transcendental reality.

At the end of Part 2, Kurtz considers the possibility of a supreme being. Of all the mythology propounded across the centuries, Kurtz views the belief in God as the "myth extraordinaire." He examines various arguments pertaining to the existence of God and finds all of them seriously deficient. In a manner somewhat redolent of Freud, he writes (p. 315):

> "God," in my judgment, is primarily a projection of the human longing for completeness. The idea of the deity is an evocation of our emotional desire for permanence. It gives vent to our passion for eternity, our wish to transcend chaos, danger, impermanence, and adversity. God is man's hope for an ideal world beyond this vale of suffering. Fixated on the father image, we look for someone over and beyond, guiding us safely through the sea of adversity, a being who, having created all things, will ultimately rescue us from nothingness and death.

In Part 3, Kurtz enlarges his inquiry into the transcendental temptation by examining some modern belief systems that, in his view, appear to satisfy the same transcendental yearnings that religions serve. The section begins with a historical survey of spiritualists and mediums, including the Fox sisters and D. D. Home. He describes the founding of the Society for Psychical Research and the studies of famed medium Eusapia Palladino. He goes on to describe the career of Joseph

Banks Rhine and to tackle the question of whether ESP exists. Not surprisingly, he finds the evidence severely wanting. Wish and hope succeed in discerning signs of paranormality where reason and careful scientific procedure fail.

Kurtz next examines the claims of astrology and UFOlogy. He concludes that astrology has no evidential basis and that it serves to provide a cosmic explanation for happenings in people's lives. He views UFOlogy as a mythology of the space age that seeks to give man deeper roots and bearings in the universe.

In Part 4, Kurtz addresses imagination, magical thinking, and the propensity to believe in natural magic. He argues that imagination has a double function. First, it allows us to conceive of an infinite number of possible worlds; this is the heart of creativity, he says. Second, imagination provides a motivation for living: Not only does it allow us to set goals and to make guesses about the future, but some of the products of imagination, such as prayers and offerings and other religious and magical activities, provide important anxiety-reducing functions that enable people to carry on in the face of danger, pain, and fear.

Kurtz emphasizes that religion has some important positive functions that must not be overlooked. Based on imagination or not, religion provides a basis for stability and order that leads to some measure of social peace and harmony. Religions also help define ethnicity and group boundaries and provide support systems within the community.

Kurtz argues that the ancient religions have a certain venerability about them; our societies have learned to live with them. He worries that there may even be a hidden danger in disabusing people of their traditional religious illusions about Moses, Jesus, or Muhammad, for it may leave people open to new infections of transcendentalism that could prove to be much more serious. That is why skepticism must be rigorously brought to bear on new paranormal and occult claims, he says; it is important that old myths not be rejected only to be replaced by new ones that may be even more deleterious.

Yet, despite its positive features, Kurtz sees religion as largely maladaptive. Not only does it lead away from critical intelligence, it has a number of other serious effects as well. For example, morality joined too closely to religion is dysfunctional in some ways. Religious commandments may be difficult to apply to changing circumstances, and the conflict between competing moral systems may be unmanageable, sometimes leading to aggression and violence. Defining social or ethnic groups by means of religion can produce negative consequences if the group is in a minority, and Kurtz suggests that Judaism is a case in point. He argues that bitter anti-Semitism is a terrible price to pay for a myth that suggests that Jews are the chosen people who have a covenant with God and a divine mission to fulfill in history:

> The tragedy of Jewish history is that the Jews have believed fervently in the man named Moses. But it is probable that he neither spoke to God nor received a revelation from on high, and he clearly used cunning and deceit to make his followers believe that he had a supernatural role to fulfill. [p. 200]

Kurtz challenges all separatist communities to put archaic ethnic or religious fixations behind them and develop new and more inclusive commitments to humanity as a whole.

Kurtz leaves us with a number of important but unanswered questions. Can humankind survive without the historic religions? And, if so, must something else take their place? Can a new scientific, moral, or philosophical outlook appropriate to

the space age be developed? Finally, Kurtz asks, can we overcome the transcendental temptation? He sees no guarantee that critical scientific intelligence will be able to surmount what appears to be a deep-seated need for transcendental myths; even some people dedicated to the quest for knowledge and truth and committed to science and rationality succumb to the transcendental temptation and profess religious faith. To Kurtz, skepticism will always have a vital role to play in examining the pretentious claims of religious and paranormal myths, and he believes that it can provide some therapy against the excesses of the transcendental temptation as well as some immunity against future infection. The biggest danger, he says, is that the transcendental temptation, when allowed to develop and spread without criticism, often leads to authoritarian systems of moral absolutes, followed by the repression of alternative viewpoints. The power of Islam in modern Iran is an example, and revolutionary Marxism has all the earmarks of an ideological religion.

Finally, the old myths of salvation must be replaced by new ideals and goals of sufficient grandeur and power to inspire and motivate people to move toward greatness. This is the urgent task of secular humanism, Kurtz says: to develop, as best possible, moral ideals and values that, though "tested in the crucible of reason and evidence," are capable of inspiring new and meaningful goals in the generations of the future. To those who worry that the demise of religion might signal an end to morality and ethical conduct as well, Kurtz points out that philosophers from Aristotle on down have demonstrated that ethics can be based on reason, without the need for religious doctrine, and without the need of divine sanction for its enforcement.

This is an excellent book. Kurtz has presented, in a style easy to follow and enjoyable to read, a strong case against transcendental claims, while continually reminding the reader of the important functions that belief in such claims fulfills. Throughout his discussion, Kurtz unceasingly promotes the importance of bringing critical intelligence to bear on all knowledge claims, and urges us to close no doors to free inquiry.

As the reader will have already guessed, this is not a book for the religiously devout; such people are most likely to reject it as sacrilege. Nor is it likely to appeal to those who are neither old enough to worry nor bold enough to speculate about meaning and mortality. Rather, this is a book both for those who wish to understand the enduring appeal of religions, cults, and belief in the paranormal and those for whom conventional religion has no appeal but who yearn for a rational basis for finding meaning in life. Kurtz has done a very commendable job of trying to show that life can be meaningful without transcendental myths, although he has reservations about whether or not such a view will ever satisfy most people. While this book will not be popular with everyone, I applaud Professor Kurtz for a job well done and strongly recommend it to all who place a high value on rationality. •

# Bad Arguments Well Written

*Beyond the Quantum.* By Michael Talbot. Macmillan, New York. 240 pp. Cloth, $18.95.

Harry Eagar

TO A SKEPTIC, *Beyond the Quantum* is unintentionally funny. There was a poltergeist in Michael Talbot's boyhood home, one that followed him to school, like Mary's little lamb, and on to New York, before finally petering out. It often manifested itself when no one but Talbot was around, and its "behavior showed a distinct connection to the ebb and flow of my own emotions."

"I . . . had experienced firsthand a range of phenomena that science . . . doesn't even acknowledge exists," writes Talbot. The inability of "orthodox science" to explain his poltergeist has led Talbot to write books, including this one and *Mysticism and the New Physics,* speculating upon what reality might be.

But Talbot's challenge to "orthodox science" involves an unacknowledged logical hurdle, one of several in this book. Since he did not invite scientists to observe his poltergeist when it was around, what needs to be explained is not the evidence of a poltergeist—which is lacking—but the evidence of a *claim* that there was a poltergeist. This can most easily be explained by assuming that Talbot made it up. As it happens, there is evidence in *Beyond the Quantum* to throw light upon the hypothesis that Talbot advances claims that he knows are not true.

The theme of the book is another retelling of the stale staple of Indian philosophy that all creation is one, dressed up for this performance with gaudy quantum-mechanical silks and parapsychological bangles. One of these is the "hundredth-monkey phenomenon," familiar to *SI* readers since Ron Amundson exposed it in the Summer 1985 issue.

Talbot advances most of his wild claims equivocally, including this one: "Because of the anecdotal nature of the account, [Rupert] Sheldrake cautions against invoking the [hundredth-monkey] incident as proof positive of his M-field hypothesis. . . ." While pushing off responsibility onto Sheldrake in one direction, Talbot pushes it off in the other direction onto Lyall Watson, who introduced the phenomenon to the world of crank literature: "As Watson relates, the details of what happened next have not been published because the primate researchers involved knew that what they would be disclosing was too heretical for general scientific consumption."

This is very neatly done. Talbot repeats the story and declares it is to be taken seriously, but in a way that makes it, at least superficially, incorrect to charge him with claiming the hundredth-monkey phenomenon exists or with saying what its significance is. Watson did the first for him, Sheldrake the second.

But in his final chapter, "Why Is Science Afraid of the Paranormal?" Talbot attacks "the much ballyhooed accounts of professional magicians who, pretending to be psychics, set out to fool certain researchers. . . ." Though he does not name the SKEPTICAL INQUIRER, CSICOP, or James Randi, it is pretty clear that he knows of them and, by a mild inference, knows of Amundson's report.

There is, in fact, nothing new or interesting in *Beyond the Quantum. SI* readers will agree with Talbot that "serious research in the paranormal is a relatively rare thing," but with little else. The book is worth attention for only two reasons: (1) it

attacks attempts to expose sham paranormal studies; and (2) it is very well and plausibly written and so rather harder to dismiss or refute by simple jeering.

The danger of bad arguments in the hands of a very good writer is hard to overstate. An example is Talbot's discussion of multiple dimensions. By jumps that are not obvious he goes from the statement that there may be more dimensions than the four accessible to our senses (which is orthodox), to the suggestion that there may be as many dimensions as there are particles in the universe, $10^{89}$.

Since he never defines "dimension," this is semantically equivalent to replacing the word *particle* with the word *dimension:* We have an explanation that explains nothing. In fact, it explains less than nothing, because the total number of dimensions in such a universe would be not $10^{89}$ but $10^{89} + 4$, because the common dimensions would still exist.

The second serious danger in Talbot's book is also based on a subtle logical jump. "How would we, or the press, respond if a professional magician announced that he had faked data in cancer research and fooled an eminent researcher?" he asks. "Would we consider it a service or a hindrance to the advancement of science? The fact that such events are greeted with relative complacency when it comes to paranormal research is once again evidence of the prejudice we have as a culture against the legitimacy of such research."

This presumably refers to the McDonnell Lab fiasco. But it would be more correct to consider the stunt that wrecked that research as a counter-experiment, one designed to test the hypothesis that paranormal experiments cannot distinguish between paranormality and simple trickery. It was not a question of faked data—before the computers took over, astronomers routinely put fake data in the piles of photographs that their clerks were searching, to see if the clerks were paying attention —but of inadequate interpretation. •

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# Love and Death

*After the Beyond: Human Transformation and the Near-Death Experience.* By Charles P. Flynn. Simon & Schuster, New York. Cloth $14.95, paper $8.95.

Susan J. Blackmore

RAYMOND MOODY, the man usually credited with launching research into near-death experiences (NDEs) and the author of *Life After Life* (1975), calls *After the Beyond* a "beautiful book." In some ways it is, for it deals with love and death and with people's experiences of both. But it fails to do so either thoroughly or objectively.

Charles Flynn, a professor of sociology, attempts to account for the life-transforming nature of NDEs. He gives many accounts, focusing on how the experiences affected people: often changing their values, decreasing their fear of death, or giving their lives new meaning. The central message is that after looking death in the face

people return with a love of the light that transforms their own lives and brings love to those around them. The book ends with an account of the author's own "Love Project," in which his students, who never had experienced NDEs, were asked to practice love. The consequences were comparable to those of the NDEs themselves.

This book might have analyzed just what is transformed, whether effects of NDEs are related to the subjects' previous conditions, personalities, prior beliefs, medical details, or rather to the immediate causes of the NDEs. The author might have presented the many available theories, from the physiological to the mystical. But he discusses none of these. Key concepts like death and the NDE itself are left undefined. Methods of collecting cases are barely mentioned, and those in which people were apparently clinically dead are set indiscriminately alongside those in which people were merely in shock or even, as in one case, had a religious conversion. As for the Love Project, potentially important as it is, we are not even told what the students were asked to do.

Worst of all, however, is the way in which people's attempts to describe the ineffable are, apparently unconsciously, swamped in a peculiarly American kind of Christianity. There are heart-felt descriptions of selflessness, of "itness," of the rightness and realness of everything, of being on the path and knowing the answers; but the opportunity to explore all these openly was lost. God, it seems, was always brought in where He did not belong.

This book should convince readers that the life-transforming NDE needs thorough research, but it certainly does not help to fulfill that need. •

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# Some Recent Books

Blackley, S. Ramsay. *As in Adam All Die.* The Book Guild Ltd., 25 High Street, Lewes, Sussex, U.K. 1986, 283 pp. £9.50. A record of the author's personal search for evidence of life after death, begun after he had experienced a four-minute heart stoppage. Examines the spiritual, psychical, and religious responses to the life-after-death question. Concludes that none of them have provided credible evidence.

Gordon, Henry. *ExtraSensory Deception.* Prometheus Books, Buffalo, N.Y., 1987. 227 pp. $18.95, cloth. A welcome collection of the author's lively, skeptical newspaper columns for the *Toronto Star.* Sample subjects: the ambiguous Kreskin, how to expose psychic nonsense, how does dowsing score? psychics on radio shows, how do clairvoyant dreams really happen? poltergeists, TM and the "unified field," auras exist (in the minds of beholders), psychic detectives, sneezing at superstition, UFOgate, Edgar Cayce, W. V. Grant, Houdini, David Copperfield, and many more. Gordon is a magician, writer, lecturer, and active CSICOP Fellow.

Krippner, Stanley, ed. *Advances in Parapsychological Research 5.* McFarland & Co.

Inc., Box 611, Jefferson, NC 28640. 1987, 301 pp., $35. Includes reviews on psychokinesis by Gertrude Schmeidler, ganzfeld and hypnotic-induction procedures in ESP research by Rex Stanford, theoretical parapsychology by Douglas Stokes, and a select bibliography of books on parapsychology 1982-1985 by Rhea White. Of perhaps special interest are Marcello Truzzi's introduction and Irvin Child's lengthy review of criticism in experimental parapsychology, 1975-1985. Truzzi (who says he is skeptical about psi phenomena and remains a "public doubter") sees signs of less dogmatism and fewer stereotypes about psi research among both critics and participants. There is no simple dichotomy (between the unsatisfactory terms *believers* and *skeptics*) but "actually a continua of opinion and approaches. More openness and a variety of other changes for the better on both sides lead Truzzi to feel there is "reason for optimism that increased dialogue between peer advocates will result in scientific adjudication with intellectual fair play and improved due process." Child's review attempts to provide fair-minded appraisals of the field's critics (and their criticisms), among them Charles Akers, James Alcock, Susan Blackmore, Persi Diaconis, Martin Gardner, Edward Girden, C. E. M. Hansel, Charles Honorton, Gerd Hövelmann, Ray Hyman, J. E. Kennedy, David Marks, James Randi, and others in and out of parapsychology.

Nickell, Joe. *Inquest on the Shroud of Turin.* New, Updated Edition. Prometheus Books, Buffalo, N.Y., 1987. 186 pp., $12.95, paper. An updated version of the only book on the shroud that examines the claims and evidence from a critical, scientific viewpoint. It is must reading for anyone who claims to be informed on the subject, especially now that the shroud is back in the news as plans to date it are under way. Written in collaboration with a panel of seven scientific experts. An update chapter relates events in the four years since the book's original publication, including the plans for dating it scientifically and statements calling for great caution in that project.

Randi, James. *The Faith-Healers.* Prometheus Books, Buffalo, N.Y., 1987. 314 pp. $18.95. Foreword by Carl Sagan. Randi's lively investigative report into the pretensions and deceptions of faith-healers. Here are all the details of his now-famous exposé of Peter Popoff and much, much more. With chapters on the origins of faith-healing, the church view, financial aspects, mail operations, A. A. Allen, Leroy Jenkins, W. V. Grant, Oral Roberts, Pat Robertson, Father DiOrio, Willard Fuller ("the psychic dentist"), the "lesser lights," the practical limitations of medical science, legal aspects, and "Where Is the Evidence?" Deserves wide attention.

—*Kendrick Frazier*

# Articles of Note

Baker, John F. "Questionable Publishing Judgments." *Publishers Weekly,* August 14, 1987, p. 12. See version in "Forum," this issue, p. 191.

Boot, William. "All Aboard the UFO." *Columbia Journalism Review,* September/October 1987, pp. 22-23. Good discussion and critique of news media handling of accounts of this year's supposed space-alien visits, UFO abductions, and "documents" about crashed saucers. Critical of media (especially ABC's "20/20" and "Nightline" and the *New York Times*) for not subjecting abduction believers to tough cross-examination. Says journalists are "possessed by an overpowering desire to spin an entertaining yarn" but are torn between whether to treat the whole thing as a joke and alienate paranormal believers or treat the matter "as if it were serious" and thereby risk stating the pro-UFO case too strongly.

Broad, William J. " 'Urge to Investigate and Believe' Sparks New Interest in U.F.O.'s." *New York Times,* June 16, 1987, pp. 17 and 21. Good balanced article on the rejuvenation of interest in UFOs based on new books and crashed-saucer "documents." Includes skeptical comments from Ben Bova, Philip J. Klass, Frederik Pohl, Michael Wertheimer, and Paul Kurtz.

Claflin, Edward Beecher. "When Is a True Story True?" *Publishers Weekly,* August 14, 1987, pp. 23-26. An examination of the decisions that went into the publishing of Whitley Strieber's *Communion.* "The fact that 'Communion' is in the nonfiction column of the bestseller list raises some interesting questions for publishers." Shows that the decisions were clearly based on the manuscript's readability, its salability, and Strieber's promotional skills and good TV persona. Very little self-questioning by the publishers. "This has been a charmed publication. We've had a wonderful time publishing this book," says Beech Tree publisher James Landis. This article is first of a series by *PW* examining publishing decisions. See also John F. Baker's editorial in same *PW* issue, reprinted in *SI*'s "Forum" column in this issue.

Cook, Frank. United Press International. "Why Some People See Jesus on a Freezer," *San Francisco Chronicle,* June 18, 1987; "Casting a Shadow: Most Saintly Sightings Fade, Researchers Say," *Arizona Republic,* June 20, 1987. Good wire service article examining what's behind recent outbreak of religious images seen on oil tanks, porch freezers, houses, etc. Catholic University theologian Richard DeLillio says many of the images are the products of faith plus a lot of imagination: "People who really want an image to be there will see an image there. . . . They want a God who will fix their lives."

Crease, Robert P., and Charles C. Mann. "Physics for Mystics." *The Sciences,* July-August 1987, pp. 50-57. Good article on the philosophy of modern physics and the "Pandora's box of foggy speculation" that has arisen in its wake.

Ellenberger, C. Leroy. "Immanuel Velikovsky 40 Years Later: Not to Be Taken Seri-

ously." Letters column, *New York Times,* May 16, 1987. Counters an earlier letter that said recent discoveries vindicate Velikovsky.

Gardner, Martin. "Giving God a Hand." *New York Review of Books,* August 13, 1987, pp. 17-23. Lengthy essay examining the background, words, and claims of prominent evangelists and the growth of fundamentalism.

Gardner, Martin. "Science-Fantasy Religious Cults." *Free Inquiry,* Summer 1987, pp. 31-35. The story of Ray Palmer, forgotten flying-saucer pioneer. Instructive, amusing article.

Geist, William E. "Group Therapy for the Victims of Space Aliens." *New York Times,* July 8, 1987, p. B1. Amusing column about the alien-abduction fad in New York society.

Glick, Peter. "Stars in Our Eyes." *Psychology Today,* August 1987, pp. 6-7. Psychologist's report of studies showing that believers in astrology are more likely than skeptics to distort the evidence they receive so it does not challenge their beliefs; even skeptics are not immune, however, especially when the astrological description is flattering, as most horoscopes are.

Gould, Stephen Jay. "The Verdict on Creationism." *New York Times Magazine,* July 19, 1987, pp. 32-34. See this issue, p. 184.

Gove, Harry E. "Turin Shroud." Letter, *Nature,* 327:652, June 25, 1987. Further assurances that laboratories to be involved in radiocarbon dating of the Shroud are "acutely aware that the operation must be completely credible." (See CSICOP statement and Editor's Note in *SI,* Fall 1987.) Gives additional information on the recommended procedures.

Harris, Marlys. "Shirley's Best Performance." *Money,* September 1987, pp. 160-178. Subtitled "MacLaine may be out on a limb, but the tree she's shaking is full of money."

Hastings, Ronnie Jack. "New Observations on Paluxy Tracks Confirm Their Dinosaurian Origin." *Journal of Geological Education,* vol. 35, 1987, pp. 4-15. Thorough illustrated summary of the studies that refuted creationist claims of "mantracks" contemporaneous with dinosaur tracks.

Hyman, Ray. "Parapsychological Research: A Tutorial Review and Critical Appraisal." *Proceedings of the IEEE,* vol. 74, no. 6, June 1986, pp. 823-849. Excellent, comprehensive critical evaluation of the status of parapsychology and its major experiments. Hyman says that throughout the 130-year history of the field the best examples of scientific evidence for paranormal phenomena fall by the wayside. As a result, "parapsychology lacks not only lawful and replicable phenomena, but also a tradition of cumulative evidence." The same themes and shortcomings that haunted the very earliest investigations still characterize parapsychology today. Both proponents and critics have fallen short of standards of fair play and rationality. Criticism is now becoming more constructive, however, and many younger parapsychologists are working for higher standards within the field. Hyman says the best lines of systematic research in parapsychology "are not of sufficient quality to be put before the scrutiny of the rest of the scientific community." (Robert G. Jahn of Princeton responds to a part of this article in vol. 75, no. 4, April 1987, pp. 524-525. The journal's editors then say they will publish nothing more on parapsychology.)

Little, Gregory L., Rod Bowers, and Lora H. Little. "Geophysical Variables and Behavior: XLII. Lack of Relationship Between Moon Phase and Incidents of Disruptive Behavior in Inmates with Psychiatric Problems." *Perceptual and Motor*

*Skills,* 64:1212, 1987. Study of number of incidents in a county correctional center's mental-health unit over a six-year period by phase of moon. Results: full moon, 83; new moon, 95; first quarter, 88; third quarter, 98. The differences were not statistically different.

Lowry, Katharine. "Channelers." *Omni,* October 1987, pp. 46 ff. Article is descriptive but also evaluative and skeptical. Concludes that channelers "are embracing what appears to be nonsense" and are offering "false hopes and false visions," thereby "solidifying the dependency that brought them followers in the first place. . . . Channelers prey on our credulity and fear."

Marks, David. "Investigating the Paranormal." Letter, *Nature,* 329:10, September 3, 1987. Psychologist responds to critics of his tough-minded analysis of parapsychology published in *Nature* in 1986.

McClenon, James, and Ray Hyman. "A Remote Viewing Experiment Conducted by a Skeptic and a Believer." *Zetetic Scholar,* 12/13, 1987, pp. 21-33. Report of an experiment judged by subjects and rejudged by geographically distant individuals. In neither case did the results reveal evidence for a remote viewing ability.

McDonough, Thomas R. "Are They Here? UFOs and Other Evidence." In McDonough's *The Search for Extraterrestrial Intelligence,* Wiley, New York, 1987, pp. 183-190. Short, lively, popular treatment of UFOs.

Oberg, James. "UFO Update." *Omni,* August 1987, p. 83. Inquiry into the original stimulus for bizarre UFO reports in Brazil on March 2, 1978—including a wild tale by boy (already steeped in UFO lore) who said the aerial phenomenon drew him to a field where (as revealed later under hypnosis) he was abducted and had a sexual encounter with a light-skinned alien seductress with almond-shaped eyes and breasts fuller than those of a female from Earth. Oberg shows that the aerial phenomenon the boy and others saw was caused by venting of propellents over South America from a Soviet spacecraft being boosted toward an elliptical orbit. "What actually went on inside his head that evening remains a question for psychologists," says Oberg, "[but] investigators have already explained what occurred in the skies."

Page, Jake. "Supreme Quartz." *Omni,* October 1987, pp. 94-100. Balanced report on the crystal-consciousness movement. Shows the lack of scientific evidence that crystals have any effect whatever on the human mind or body. Quotes several experts to that effect, including the curator of gems and minerals of the American Museum of Natural History. Despite the lack of evidence, the enormous interest in and demand for crystals has pumped up their prices 100 percent a year for five years.

Pankratz, Loren. "Magician Accuses Faith Healers of Hoax." *Journal of Religion and Health,* vol. 26, no. 2, Summer 1987. Report on James Randi's investigations of American faith-healers and the history of conflict between charlatans and magicians.

Spiegel, David. "The Healing Trance." *The Sciences,* March/April 1987, pp. 35-40. Article by Stanford psychiatrist on how hypnosis is winning new respect as a therapeutic tool, not as a treatment itself but to facilitate and intensify therapies, especially in the control of anxieties, phobias, and pain.

"The Tabloids That Time Forgot," *ISC Newsletter* (International Society for Cryptozoology, Box 43070, Tucson, AZ 85733), vol 6, no. 2, Summer 1987, pp. 9-10. Criticism of the "outrageous cryptozoologically oriented claims" of the sensational weekly tabloids ("Dinosaur Captured in Africa"). Cautions that most, if not all,

such articles are complete fabrications and notes the telltale signs of fabrication. Example: no information given to allow one to find and contact the scientists named.

Trefil, James. "Ball Lightning, UFOs, and Other Strange Things in the Sky." In Trefil's *Meditations at Sunset: A Scientist Looks at the Sky,* Scribner's, New York, 1987. Excellent discussion of the general issues involved with these subjects. Asks why some subjects, such as study of UFOs, are considered "outside the pale," while others, seemingly equally bizarre, are given the official stamp of approval. He later explains why. He agrees with the view that the study of UFOs is firmly on the "far side of the science-pseudoscience boundary" and discusses why the UFOlogists' analogies to the study of ball lightning (and other arguments that scientists are being closed-minded) are off the mark.

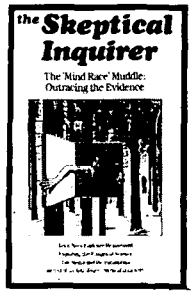
Truzzi, Marcello. "Reflections on 'Project Alpha': Scientific Experiment or Conjuror's Illusion?" *Zetetic Scholar,* 12/13, 1987, pp. 73-98. An attempt at an independent appraisal of James Randi's famous project using magicians posing as psychics at the McDonnell Lab of Washington University. Focuses on questions of (1) Alpha's competency as a scientific experiment, (2) its ethics, (3) the process of reporting its results, and (4) its significance. Truzzi is generally critical in inclination, approach, and conclusions but struggles to be fair-minded. Much of interest.

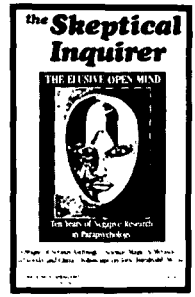
Wagner, Mahlon W., and Lynne Almeida. "Geophysical Variables and Behavior: XXXVII. Lunar Phase, 'No'; Weekend, 'Yes'; Month, 'Sometimes.' " *Perceptual and Motor Skills,* 64:949-950, 1987. Examination of police department calls over two-year period in a small Northeast city (Oswego, New York). Finds no "lunar" effect for 12 types of offenses. Not surprisingly, 7 offenses occurred more frequently on weekends and 5 occurred more frequently during the summer months.

Weisberg, Louis. "Shroud Splits Scientists." *The Scientist,* vol. 1, no. 17, July 13, 1987. One of the rare journalistic articles that skeptically questions the objectivity of scientists making up the Shroud of Turin Research Project (STURP). Gives a balanced account of the Shroud-study controversy, including criticisms from Marvin M. Mueller of Los Alamos (see his account in *SI,* Spring 1982) and Harry Gove of University of Rochester.

Wilson, Richard. "Psychics." Letter, *Physics Today,* May 1987, p. 144. Harvard physicist comments on earlier article by Janet Oppenheim on physicists and psychical research. Oppenheim then responds.

—*Kendrick Frazier*

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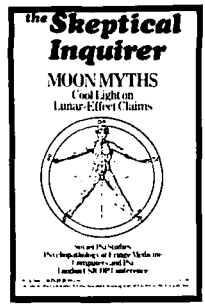

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# From Our Readers

*The letters column is a forum for views on matters raised in previous issues. Please try to keep letters to 300 words or less. They should be typed, preferably double-spaced. Due to the volume of letters, not all can be published. We reserve the right to edit for space and clarity. Address them to Letters to the Editor, SKEPTICAL INQUIRER, 3025 Palo Alto Dr. NE, Albuquerque, NM 87111.*

## Subliminal deception

I was most interested to see the article "Subliminal Deception: Pseudoscience on the College Circuit," by Thomas Creed (*SI,* Summer 1987), about Wilson Key's theories of "subliminal seduction." I confess I had been taken in by much of Key's writing when I encountered it about ten years ago—although, in fairness to Key, it must be noted that not all his notions are so far-fetched as those examined in Creed's article.

My experience in trying to see the "subliminal" message in the martini glass on the cover of Key's *Subliminal Seduction* may be amusing. (This picture was reprinted with Creed's article.) After being baited by the blurb that I should be "sexually stimulated" by this picture, I gazed at it for a while. I suddenly saw what I thought was the "image": The upper ice cube on the left is a man's head, bending down; he appears to be kissing a woman whose head is the right ice cube. The lime peel in the front of the glass is the man's right arm. The sense of revelation I got after seeing this greatly strengthened Key's hypotheses for me. (To this day I cannot look at this picture without seeing this interpretation.) To find out that Key sees very different "subliminal" images in this glass, as related in Creed's article, has damaged his credibility as much as anything else in the article!

Stephen L. Gillett
Pasco, Wash.

Thomas Creed's article on "Subliminal Deception" deals with a crucial topic: the use of the scientific method to overcome bias and produce objective data that lead to unambiguous conclusions. However, the article itself demonstrates how difficult it is to achieve scientific objectivity.

Creed ridicules Wilson Bryan Key for "providing no systematic evidence to support his claim" that ads contain subliminal messages. The question is, what "systematic evidence" does Creed himself provide to support his claim that subliminal messages do not exist in ads? He tells us: "I showed this picture to a couple of dozen people. . . . None of them saw the face that Key found so distinct" (p. 360). That is scarcely "systematic evidence" that embedding does not occur.

Later, Creed points out that, although Key found embeds in a photo, his publisher claimed not to have made the embeddings. Creed's conclusion? "This should have been a strong disconfirmation of his [Key's] theory" (p. 362). Why? Again, we have one person's word against another. Where is the "systematic evidence" that the publisher rather than Key is right?

To disprove Key, Creed must do more than claim he is "illogical" (p. 364). He must prove that no advertiser embeds subliminal images in ads and that, were an advertiser to do so, the embeds would

have no effect on the ad's readers. Creed does neither. This isn't surprising, since it would be enormously difficult to accomplish either task.

Dan Dieterich
Professor of English
University of Wisconsin
Stevens Point, Wis.

While I appreciated Creed's rigorous analysis and denunciation of Wilson Bryan Key's claimed subliminal advertising conspiracy and the simplistic thinking on which it is based, I believe Dr. Creed's own retreat into relativism in his conclusion is itself a form of simplism.

If the supposedly superior relativistic thinkers, in the "Perry scheme" model referred to by Creed, are to believe that the many diverse opinions in the world "may all have legitimacy," by what means could they possibly dismiss the nonsensical opinions expressed by Key? What would make Creed's opinion any more legitimate to the relativistic thinker than Key's? Only its complexity?

The appropriate rejection of simplistic thinking is not a valid justification for the rejection of the concepts of Right and Wrong or Truth and Falsity. All opinions do not have equal claim to legitimacy. Only those opinions that coincide with reality, determined by necessarily complex thinking, may make such a claim, as Creed so adroitly displayed by holding Key's claims up to exactly that standard.

Richard W. Houston
Hatboro, Pa.

Last year I had the pleasure of seeing Wilson Bryan Key in action at the Western Humor Conference in Phoenix. There's no doubt that he's entertaining, persuasive, and "sincere."

It doesn't take much reflection to realize that he is a talented hoaxer who doesn't believe a word of what he's saying, who enjoys hoodwinking the gullible, and who makes money from his books and lectures. Yet a lot of people were taken in, as witnessed by the heated arguments in the hall afterward.

Key's talks are supposed to be fun, brushed off lightly with a feather perhaps, but not crushed with a heavy-handed, scholarly rebuttal. We ought to reserve our heavy armament for the fakers who are really doing damage. Did Professor Creed really swallow all this delicious applesauce?

W. H. Buell
Los Angeles, Calif.

While Thomas Creed levels some valid criticisms of the work of Wilson Bryan Key, I am not convinced that Key's arguments, flawed though they may be in certain specifics, are as totally without merit as Creed contends.

Shortly after I first heard of Key's ideas, but before I read his three books, I began examining advertisements in major magazines. An Edge shaving ad that appeared in late 1984 on the inside back cover of an issue of *Newsweek* stunned me. In it, a man, lathered and obviously prepared to shave, has his eyes closed in a state of bliss. The lower half of the illustration obviously represents the man's thoughts. The face of an attractive female is depicted in such a way that a waterfall merges with her hair, and a male figure is seen surfing under the crest of a wave. The peaks of several mountains—the type one might anticipate seeing in Hawaii—form a backdrop for the surfer; the sun seems to project a glow from just behind the mountains.

After studying this advertisement for about 30 seconds, I was amazed to find an arm amidst the foam of the shaving cream. The more carefully I looked, the more apparent it became that the scene was filled with less than overt—but clearly identifiable—images. Three figures of women are poised in the shaving cream in postures that are suggestive of salon photography. The mountains, it turns out, are also a silhouette of a nude female, her legs raised, her head thrown back, and the light of the sunset glowing

from her abdomen.

No one I have shown this illustration to, not the worst skeptics of Key's thesis, has failed to notice this pattern, although in each case the observers had to look a while before seeing the female forms. Once perceived, they are identifiable; no one suggested that they exist because I invented them.

What troubles me about Creed's argument is that he misrepresents Key's point, especially when he faults him for not having an adequate theoretical foundation for his claims. In *The Clam-Plate Orgy,* Key concedes that he is not in possession of a satisfactory theory to explain what advertisers are doing in their ads. He argues that the theories that underlie manipulative advertising are trade secrets, kept that way because of the monetary considerations involved.

Professor Creed, in demanding that Key offer "systematic evidence" and "unambiguous conclusions," also seems to misunderstand modern epistemology. Creed implies that, in truly scientific ventures, assertions are made only when certainty has been achieved through testing that has produced totally unambiguous results. It just ain't so. If it were, learning would come to a dead halt. I do not have to have a systematic explanation for the female figures in the Edge ad to say that they are there and that they were almost certainly put there for a reason. My conjectures about the motive for their inclusion may be wrong; the theories that led to the production of the ad may also be flawed, but humans can't stop conjecturing just because we don't know everything about a subject.

The fact that a theorist uses sloppy methodology at times or even makes blatant mistakes does not necessarily negate everything that he says. Key certainly offers some insightful commentary in his books; it is hard not to be impressed by the points he makes about the male-female swimsuit trunk reversal of a Jantzen ad, for example (see *Media Sexploitation*). Perhaps Key's ideas need to be refined, but my own experience tells me that, in some advertisements at least, images that are not immediately apparent to the conscious mind are manipulated in highly suggestive ways.

Frank Reuter
Berryville, Ark.

*(Dr. Reuter is the author of "Folk Remedies and Human Belief Systems" in our Fall 1986 issue.*—ED.)

I was quite flattered by the recent vitriolic attack upon my work in your publication by Thomas Creed, apparently a psychologist and self-proclaimed scientist. Somehow I inadvertently twisted his exposed nerve endings during a public lecture. The article revealed far more than the individual musings of one psychologist; it reflected a very old polemic that nurtured generations of behaviorist-experimentalist perspectives on the human mentation system. I had thought most of these individuals had given up the rigid authoritarianism that propelled their groupthink.

Creed's rather crude and inarticulate allegation of pseudoscience on the subliminal-perception issue ranged from the humorous to the absurd. He neglected to place on the list of pseudosciences the intellectual absurdities of behaviorist psychology. Many writers, including myself, hold these perspectives on the human mentation process as rather silly, superficial attempts to legitimatize wishful thinking as a scientific discipline. But then Creed has found *truth*—expressed so often by stage comedians as "What you see is what you get!"

In his lengthy diatribe against my three books, Creed appeared to be most bothered and threatened by my audience: "somewhere in the neighborhood of 25,000 to 30,000 students a year" and "the millions who have read his books." He appeared especially offended by his estimate of my annual income, "the total is $80,000 to $100,000." There appeared more than just a touch of sour grapes in his preoccupation with these figures. He suggests that all of those people over the past 16 years who considered my work at least interesting, revealing, and worthy of their concern were simply gullible,

stupid, weak-minded, and easily deceived.

In his review, Creed avoided anything more than a cursory reference to the distinguished work of such researchers as G. S. Klein, R. R. Holt, and Lloyd Silverman at New York University, L. Luborsky and H. Shevrin at the Menninger Foundation, C. Fisher at Mt. Sinai Hospital, Ernest Hilgard at Stanford, G. J. W. Smith in both the United States and Sweden, and Norman Dixon at University College London. All of these have substantially validated the subliminal perception phenomena.

In my new book (to be published this winter), *The Age of Manipulation: The Con in Confidence, the Sin in Sincere,* I include a 13-page updated bibliography of some 500 published studies validating many aspects of subliminal communication.

My argument, however, is relatively simple—a difficulty that often puts pedants like Creed up the wall, so to speak. Visual proof or validation is acceptable evidence legally, scientifically, philosophically, or by any other criteria of judgment. The word *sex* does indeed appear in Lincoln's beard on the $5 U.S. bill and the word *kill* on Gadaffi's forehead on the *Time* cover (April 21, 1986); the orgy scene actually was painted into the Howard Johnson placemat, and the assemblage of monsters really was painted into the Johnnie Walker ice cubes. I did not imagine, paint, create, or profit from this manipulative art work. Many thousands of individuals have been able to clearly observe such perceptual phenomena, and numerous artists have discussed with me the creative-technical conceptualization of such material. Many of my students have studied and examined the perceptual inability of certain individuals, highly repressed individuals like Creed, to consciously perceive such imagery. Indeed, if Creed observed fried claims and ice cubes in these paintings, he was most certainly projecting—as with Rorschach inkblots, as he even suggests. These images are provably constructed paintings that have nothing to do with the banal realities of ice cubes and fried clams—the real things. Creed would have benefited from a class in airbrush painting techniques, whereby skilled artists can make fantasy far more *real* than reality. Such a course might have helped this self-proclaimed scientist learn gradually to distinguish between reality and fantasy, but then he would have had to seek employment outside the restrictive covenants of behaviorist psychology—the simplistic, mechanical, perceptual fantasization of the mentation process. . . .

From his commentary, I am quite certain Creed reviewed my three books without even reading them. This is unfair, to say the least, though I realize it does save a lot of time and thought. Had he read them even casually, he would not have made many of his comments. The attack appears based upon a random selection of various paragraphs, taken out of context, and assaulted with the inquisitorial ferocity of a Torquemada, typical of the behaviorist domination of U.S. psychology and the so-called social sciences—often anti-social and quite unscientific.

With only a modicum of imagination, Creed might have sold his attack upon me to the editors of *Advertising Age,* who spend substantial time and money searching for someone—anyone almost—who will attempt to discredit my work. His efforts in your publication should warn every reader to always be skeptical—even about the SKEPTICAL INQUIRER! With critics like Creed, I can be assured that my new book on language, culture, and human perceptual gullibility will become my fourth best-seller.

Watch yourselves.

Wilson Bryan Key, Pres.
Mediaprobe, Inc.
Reno, Nev.

*Thomas L. Creed responds:*

*Frank Reuter makes several points that need to be addressed. The "Edge" advertisement he refers to certainly does include embedded figures. The reason they are so obvious is that they are central to*

*the theme of the ad—the shaver is apparently daydreaming and the figures constitute the dreamscape. I suspect the creators of the ad would be disappointed if we did* not *see the women in the ad. As I mentioned in my article, sexual stimuli are ubiquitous in ads, and this is just one more example. I fail to see how this ad provides any support for Key's thesis in that there is nothing "subliminal" about these figures.*

*Reuter claims that I "misrepresent Key's point." As I stated in my article, Key claims in both his books and his lectures that the "unconscious brain works at the speed of light" and "comprehends all aspects of a picture in less than a millisecond." Since I have merely quoted Key, where is the misrepresentation? Key may make a slight disclaimer in one of his books, but he continues to make this claim. Since he provides no support for it, it must be viewed with utmost suspicion. Furthermore, as Reuter points out, Key argues that "the theories that underlie manipulative advertising are trade secrets, kept that way because of the monetary considerations involved." Such a statement strains credulity. The process for manufacturing Coke Classic or Screaming Yellow Zonkers may be a trade secret, but general theories of behavior certainly are not. Literally thousands of behavioral scientists are actively engaged in research to discover the basic laws of human action. That none has been able to discover what apparently all advertisers know is extremely unlikely.*

*Reuter says I do not understand modern epistemology because I expect Key to provide "systematic evidence" in support of his claims and to conduct research sufficiently free of design errors to allow for "unambiguous conclusions" for his theories. As I said in my article, "Key's theory of subliminal manipulation contradicts existing theory and therefore needs the strongest support before it can be accepted," and I stand by this statement. Nowhere in my article did I state or imply that "certainty" must be achieved before assertions can be made. I am sorry if Reuter incorrectly inferred that from my article. But the crux of the issue is this: Key is not simply "conjecturing." He refers to himself as an expert on this subject ("the world's leading authority," by his own account) and is claiming scientific support for his theories, so the burden of proof is on him. Unfortunately, his research is so poorly conducted that it is not possible to conclude anything with respect to the effect of the independent variable ("subliminal" stimuli) on the dependent variable (change in attitude). Notwithstanding Reuter's statement about "modern epistemology" and his fears about "learning . . . [coming] to a dead halt" if we demand scientific rigor, the unambiguous demonstration of a functional relationship between the independent and dependent variables is necessary if Key is going to claim empirical support for his theories. My point was, and remains, that for claims to be taken seriously, especially those that contradict existing theory, they must have* some *support, and Key's simply do not.*

*Dan Dieterich states that "to disprove Key, Creed . . . must prove that no one advertiser embeds subliminal images in ads," etc. As Dieterich says, this would be very difficult indeed. Fortunately, the responsibility for providing evidence is on the part of the person making the claim, not the critic. It is not the responsibility of UFO skeptics to prove that a UFO has never existed, nor is it the responsibility of paranormal-health-claims skeptics to prove that crystals or colored lights have never healed anyone. The skeptic's role is to point out claims that are not adequately supported by acceptable evidence and to provide plausible alternative explanations that are more in keeping with the accepted body of scientific evidence. This is what I have tried to do with the work of Key.*

*As for W. H. Buell's concluding questions, no, I did not swallow any of it, but much of the audience did. Whether Key is simply a "talented hoaxer" or a true believer is of little importance. He has a broad audience and therefore his thesis needs to be addressed in scholarly rebuttal. If CSICOP were to ignore claims simply because they were silly, it*

*would be out of business tomorrow.*

*W. B. Key's letter is eloquent testimony to his scholarly style—wild speculations maligning those who do not see the world as he does, creating diversions (the attack on behavioral psychology, which was not mentioned in, nor is it related to my article), while providing little of substance to support his claims. An* ad hominem *attack is an old, tired technique for deflecting attention from oneself, and I trust* SI*'s readers see it for what it is.*

*I would like to comment on two points mentioned in Key's letter. First, concerning my "preoccupation" with his annual income (one sentence in an article does not preoccupation make): I am not interested in Key's income. My concern was, and is, with colleges paying to have their students misinformed. Second, Key invokes the names of several researchers who have investigated subliminal perception. Before I wrote my article, I reviewed the literature on subliminal perception, including articles by the people mentioned by Key. While their articles do support the existence of subliminal perception (other articles do not, however—it's a controversial topic), virtually all of these authors consider it a very weak phenomenon, and their studies lend no support to Key's major thesis that advertisers are using these techniques, that they are causing psychosomatic illness, or that they are, or even could be, responsible for the buying behavior of consumers. In fact, the one article I have found that directly tested for changes in consumer behavior as a function of subliminal messages (Kohn, Smart, and Ogbourne,* Journal of Advertising, *13(1): 34-40, 1984, showed no effect.*

*Key's attacks on me do nothing to change the fact that, until he provides solid evidence to support his claims, they should be relegated to the category of unsupported speculation.*

*Editor's note: Many readers also wrote positive letters in support of Thomas Creed's article. These were addressed to Dr. Creed personally and are not published here. See also Tom Bourbon's column on the concept of "subliminal" in the Forum section of this issue.*

## Subliminal tapes

Your Summer 1987 issue contained two articles that mentioned subliminal tapes. I have a few comments to add.

Recently I invested money in a number of tapes that supposedly would enable me to lose weight effortlessly. They all supposedly operate with the same technique, using similar "affirmations" (short sentences), but they differ in choice of cover music. Only one tape had a voice-under that could be discerned in the quieter part of the music. Other tapes so completely concealed the voice-under that a suspicious person might suspect he had bought a tape of second-rate music (uncopyrighted) *without any* hidden messages. So far, all I've lost is money.

One subliminal-tape company, Mind Communication of Grand Rapids, has an interesting juxtaposition of articles in its catalog and has not responded to my letters about it. Its catalog reprints three short columns together. One is the company's own rebuttal to a competitor's claims of tapes with 100,000 messages an hour: the company's technicians are quoted, talking about compression and kilohertz and bandwidth and that only 3,600 affirmations an hour are possible and any greater number is not possible (the jargon does not mention that there are only 3,600 seconds in an hour). Beside that is a clipping from *USA Today* reporting that Mind Communication was selling a tape with 9,000 messages, and beside that was a *Time* clipping about the department store black box that recited honesty messages 9,000 times an hour. More than the mere contradictions, one can ask whether, even though an entire sentence can be compressed to a third of a second, it can be recognized at that compression by a human, especially if hidden under music? This is without asking if it will have a persuasive effect.

Bernard J. Sussman
Washington, D.C.

## Human Combustion

I read Joe Nickell and John Fischer's explanation of "spontaneous human combustion" in your Summer issue, and I find it unconvincing. Nickell and Fischer should complete their investigation by attempting to burn a body in the manner they describe. I remind you that the scientific method requires that a hypothesis be tested by experimentation. Until they have done the experiment, I must remain *skeptical.*

James Kelly Hodges
St. Louis, Mich.

I enjoyed very much the article about "Incredible Cremations."

A novel called *Wieland,* by Charles Brockden Brown, published in 1798, was arguably the first American novel. One of the principal characters died of spontaneous combustion, and the whole process formed an important part of the plot.

Except for that, the novel was eminently forgettable. It is interesting, however, that the romance with pseudoscience in the United States has such ancient roots.

Ronald A. May
Little Rock, Ark.

You've come up with an explanation more loony than the phenomenon you attempt to examine! I refer to the "candle effect" offered in the article on spontaneous human combustion. In the words of my old philosophy professor: "What you suggest, sir, is a crock; and, no, the contents are not optional!"

Of course you can put the "candle effect" to the test. I suggest Nickell and Fischer take a whole pig carcass, dress it in flammable pajamas, place it in an easy chair, and give it a last cigarette! I further suggest that you do this in conjunction with a Hawaiian cookout so all that pork won't go to waste.

Peter L. Frohn
Columbus, Ga.

I read "Incredible Cremations" with great interest. I am, however, troubled by the authors' slighting reference to Wilton M. Krogman as "a 'self-styled' bone detective." Dr. Krogman is a Fellow of the American Academy of Forensic Sciences, the author of numerous papers in the field of anthropology, and a former professor of physical anthropology at the University of Pennsylvania. Dr. Krogman's book *The Human Skeleton in Forensic Medicine* is one of the basic references in this subject (and, in my opinion, the most compendious and generally useful). In the context of their article, Nickell and Fischer's remark is clearly intended as an ad hominem dismissal of Krogman's description of the Reeser case because of a supposed lack of expertise. In light of the fact that in the course of writing their article the authors consulted a physical anthropologist and a standard reference in forensic pathology (Spitz and Fisher's *Medicolegal Investigation of Death*) that cites Dr. Krogman's work, the authors appear to be guilty, at the very least, of careless research. To refer to Krogman as "a 'self-styled' bone detective" is akin to calling Carl Sagan a self-styled astronomer.

In fairness to Nickell and Fischer, I should point out that Dr. Krogman, in the most recent edition of *The Human Skeleton in Forensic Medicine,* discusses the effect of fire on bones. He does not mention the Reeser case or any other case of spontaneous combustion and limits his comments on the shrinkage of bone to discussion of experimental work showing dimensional changes in various bones ranging from 5 to 10 percent.

Walter F. Rowe
Associate Professor
George Washington Univ.
Washington, D.C.

*Joe Nickell and John F. Fischer respond:*

*The tone of Frohn's letter perhaps best speaks for itself, and Hodges's skepticism is reminiscent of the variety that denies a*

*lunar landing ever took place. The "candle effect"—far from being a loony notion or even a new one—is described in the scientific literature. (Experiments are detailed in a 1965 article in* Medicine, Science and the Law, *5, pp. 37-38.)*

*We appreciate the comments of Ronald May and Walter Rowe. As to the latter's criticism, we are well aware of Krogman's work. However, the fact that it has progressed since the 1950s—when the* Saturday Evening Post *referred to his "hobby of bone detection"—is largely beside the point, since it is the earlier period to which we made reference.*

*We observe that "self-styled" is authoritatively defined as "named (as such) by oneself," and that by twice misplacing our quotation marks Rowe misrepresents our emphasis. Had he read Krogman's article on the Reeser case (in the* General Magazine and Historical Chronicle, *Winter 1953), he would have understood that we termed Krogman "a self-styled 'bone detective'" because "bone detective" is what he styled himself (the equivalent of Carl Sagan* calling himself *a "stargazer").*

*We don't object to the popularizing title* per se, *but it is symptomatic of much of Krogman's article: His scientific skepticism is often displaced by rumor in an apparent desire to serve up a titillating tale. We criticize attempts to inflate mysteries as well as attempts to suppress them, insisting instead that they are meant to be solved.*

## Psi vs. OBE experiences

Jack McDonald (*SI,* Letters, Fall 1987) argues that my logic is baffling ("The Elusive Open Mind," *SI,* Spring 1987). I would therefore like to make it clearer. First, he wrongly claims that I accept the "logically invalid 'You can't prove a negative' axiom." In fact I was concerned with the value of negative evidence for something negatively defined—a much stickier problem.

Second, he objects to my distinction between psi and OBEs (out-of-body experiences). I shall therefore clarify what I meant. Psi is a purported process by which information is conveyed without the use of the recognized senses or muscles. It is reasonable to ask (problems of negative definition notwithstanding) whether we ever need to invoke the psi hypothesis. On the whole, parapsychologists are interested in evidence for such a process, not just in psi *experiences.*

On the other hand, the OBE is an *experience* and defined as such. It is not reasonable to ask whether it occurs or not. It is more reasonable to ask how it can be explained—and indeed whether one needs to invoke the psi hypothesis to do so. The two cases are therefore quite different and I am sorry that McDonald wishes to confuse them.

I am trying to understand human experience. My years of research led me to conclude that the psi hypothesis cannot help me, but confronting the nature of the OBE, near-death experiences, and mystical experiences surely will. That is the difference.

Susan Blackmore
Brain and Perception Lab.
The Medical School
University of Bristol
Bristol BS8 1TD, U.K.

## Interpreting predictions

Kudos for the quixotic "Psychics, Computers, and Psychic Computers" by Thomas Easton (*SI,* Summer 1987), which raises questions not only about Monday morning quarterbacking by so-called psychics, but also about the interpretation of predictive computer output in general. One aspect of the problem hinted at but insufficiently touched on by Mr. Easton is the question of human *intention,* as opposed to interpretation, which relates directly to the issue of a deterministic future.

Easton, for instance, cites a famous example of prophecy from the mouth of the Delphi Oracle, which led to a fatal interpretation on the part of the inquiring King Croesus, who asked whether he

should cross a river to give the Persians battle. Told that, if he did, a kingdom would fall, Croesus proceeded—and his kingdom fell. The charitable (or gullible) critic, I suppose, could argue that the Oracle was right, since its prediction was unquestionably upheld. This disregards the point I am trying to make, which is that the priests (who, after all, occupied a position of considerable political power) may have *wanted* Croesus out of the way themselves. What better way to achieve such an end than to seemingly "prophesy" a victory, or at least what could be interpreted as an impending victory by an unheedful king? Ironically, the "successful" prediction stands as a warning against taking prophecy too seriously.

The same sort of argument could be made for another of Easton's examples, that of the Club of Rome, which in the early 1970s warned the world of impending dire shortages in natural resources. Easton argues that the Club failed to take into account the human response to its computer-derived remonstrances. My argument is that the human response was intended by the contemporary priests of prophecy. Factoring the inevitable human response into the original prophecy would only have vitiated the response itself. Who would respond to any sort of warning that said in effect: "We're predicting catastrophe, but we notice that you'll respond in such a way as to postpone said catastrophe, so forget we even brought it up"?

I enjoyed Easton's speculation. But inveighing against tabloid prophets may be missing the mark by aiming for the easiest target. The predictions most likely to affect our well-being as a society are more likely to emerge from the mouths of political pundits and pollsters, not to mention the politicians (civilian and military) themselves. Easton's silicon chip may be throwing sand in his eyes and having a good chortle at his expense. We trust computers lack intentions. We should still concern ourselves with those of their interpreters.

Dennis Stacy
San Antonio, Tex.

## Pell and Geller

It is no wonder that so many of our national policies—education, foreign affairs, space science, and so forth—would appear to be in disarray. A recent report in *Aviation Week & Space Technology* (May 11, 1987) states that Senator Claiborne Pell, Chairman of the Senate Foreign Relations Committee, arranged for members of Congress to meet with Uri Geller concerning Soviet efforts in "psychic warfare." Overlooking the improbability of "psychic warfare," it is a shame that Senator Pell lent the dignity of his office and of his congressional committee to the apparently discredited Uri Geller. Instead of campaign contributions in 1988, perhaps we should send our congressmen and senators subscriptions to SKEPTICAL INQUIRER!

William C. Rense
Shippensburg, Pa.

## Pell, book and candle

Can Gorbachev
Now bend a spoon
Or teleport
Men to the Moon?

What arcane things
Could Claiborne find
If Uri bugs
The Kremlin mind?

Is it so tough
To figure out
What the Russkies
Are about?

No need to hire
Some stale guru—
Just look at what
They say and do.

Jack Kirwan
Dept. of Economics
University of Arizona
Tucson, Ariz.

## Suffolk 'UFO' lights

Ian Ridpath's specious response (*SI*, Letters, Summer 1987) to my letter about "The Suffolk 'UFO' Lights" should not go unchallenged (if only to show that the first skeptical explanation that comes to mind for a UFO report is not necessarily correct).

Readers may wonder why it is "understandable" that Ridpath's identification has been challenged (apparently a reference to my challenge). In fact the most understandable challenge (laced with ridicule) has come from UFO buffs. My challenge, which applies only to the identification of lights, is made with regret; Ridpath and I agree on the general approach to UFO reports. Consequently my challenge should have been surprising, not "understandable."

Ridpath's quotation from Col. Halt's tape is correct as far as it goes. But he fails to mention that, 15 seconds later, Halt asked, "Is it [the light] back again?" Clearly the light had disappeared for a while. A little later Halt was told (first) that the light was "coming up" (on 110°) and (later) that "it's dying"! This behavior is inconsistent with the Orford Ness light (regular flashes at 5-second intervals). However it *is* consistent with the Shipwash light vessel (not "lighthouse"). It produces three regular flashes every 20 seconds, the interval between flashes being 2.5 seconds. Thus not only is there a 5-second (if the second flash is missed or not mentioned) but there is a 15-second eclipse as recorded in the tape!

I did not ask Ridpath to explain "the second light"; I asked him to explain (I quote from the tape) "Two lights! One light to the right and one light to left!" I could also have asked why two lights together were not seen before or after this point. If the two lights were Orford Ness and Shipwash they should have been seen continuously together (although one is ten times more powerful than the other). But since the two beacons are 15° apart it is unlikely that this is the correct explanation. The implication of the tape is that the lights were close together (as they would need to be if seen through binoculars).

It is not clear that "the first and brightest flashing light" was seen from well inside the forest. Is Ridpath now referring to the light seen on December 26? The light seen on December 29 was not bright; it was "a strange, small red light." At the time, Halt and his team were near the edge of Rendlesham Forest and able to see out to sea. The alleged "landing site" is not deep in the forest, as Ridpath implies.

Halt's bearings are admitted to be imprecise; he gave them as "approximately 120 degrees," "about 110, 120 degrees," and "about 110 degrees," although at one point he gave a "bearing of 110°" (all magnetic). But these bearings average 115° magnetic (110° true), the precise bearing of Shipwash. An error of plus or minus 5° is to be expected in the circumstances. Ridpath has no right to assume that the bearings were taken "on the move" or "weaving between the trees"; this is special pleading!

Steuart Campbell
Edinburgh, Scotland

## Hamlet as psi researcher

Gwyneth Evans ("Pseudoscience and Children's Fantasies," *SI*, Summer 1987) remarks that a belief in witches is not necessary to the enjoyment or understanding of *Macbeth*. . . ."

A much better Shakespearean role model for psi research is provided by Hamlet. This noble hero shows the true skeptical and undogmatic spirit by always making allowance for his own bias. Though inclined to believe in the paranormal ("There are more things in heaven and earth, Horatio, than are dreamt of in your philosophy"), he compares observations with the scientifically inclined Horatio, who had refused to believe in the apparition until he saw it with his own eyes, and even then reported to Hamlet only that "I *think* I saw him yesternight." Even after conversing with the ghost, Hamlet is still open to the possibility that the message about his father's murder may be a creation of his

own jealousy and grief. Accordingly he designs an experiment to test the hypothesis. The experiment is well controlled, with observers watching the king like CSICOP at a key-bending. Unfortunately, in the general chaos attendant upon the king's abrupt departure, Hamlet violates one of the accepted protocols for such experiments and puts a leading question to Horatio. The possibility of unconscious cueing in Hamlet's question vitiates the evidentiary value of Horatio's reply, but never mind. Hamlet never does get to writing up his results anyway.

We can only regret that Hamlet's untimely death deprived the world of one of its most intelligent and imaginative researchers. Not one to be easily taken in by charlatans and frauds, Hamlet sees right through the nefarious scheme of Rosencrantz and Guildenstern and cleverly turns the tables on them. He also recognizes that Polonius is using Ophelia as a cat's-paw to trick him into revealing what is on his mind. Tragically his usually keen mind fails to see that Ophelia herself is an innocent dupe. His sudden decision not to trust her precipitates the many terrible events that follow. In this there is a lesson for us all: It is a non sequitur to argue, "Some of them are certainly frauds; therefore the rest of them are probably frauds."

Roger Cooke
Burlington, Vt.

## Astrology protocol

As author of the most improbably successful of the anti-astrology studies analyzed by Good and Reeves (*SI*, Follow-up, Summer 1987), I would like to report some details of the protocol for this test not reported in my published article.

The test was conducted as an exercise in my class in logic and scientific method at Baruch College in 1980. Forty students provided birth information, charts were drawn, and I prepared interpretations of the charts according to a consensus of astrology manuals. I made two photocopies of each chart, clipped a student's name to each, marked each chart "A" or "B" at random, and made a master list matching letters and names. In the next class, I called each student to my desk, putting his own chart and one chart taken at random into a manila envelope, removing the names before the student approached the desk. (Improbably, no student got the same chart twice.)

At the next class meeting, 38 students presented rated charts. One student sat beside me to check the master list; another kept score on the board. Nineteen of 38 students rated someone else's chart more accurate than their own. My heart sank as I tallied the results. An even split was too, too neat to be true. If there was any temptation to doctor the results, it was to replace the even split with somethng more intuitively representative of the randomness of life. I draw consolation from Reeves's analysis showing that there was a 13 percent chance of obtaining my results if astrology were false. This is more probable than drawing an inside straight, something I have also done on occasion.

The main flaw in this methodology, I think, lies in permitting subjects to rate their charts themselves. A defender of astrology might argue that the charts truly describe the subjects, but that the subjects cannot recognize themselves in the descriptions. If I were to do this over, I would (*a*) have each subject's personality traits and circumstances rated by professional psychologists, using standard scales, (*b*) have the charts prepared by astrologers themselves, (*c*) seal up the raw data in a place where even I can't get to it except in the presence of witnesses. As it happens, I threw the stuff out when we moved offices in 1985, never thinking that any attention would be directed toward my half-forgotten study. Live and Learn.

Douglas Lackey
Wayne, N.J.

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We hope that these brief explanations help you understand some of the problems you may encounter. Please rest assured that the SKEPTICAL INQUIRER staff is working very hard to resolve them as quickly as possible.

**the Skeptical Inquirer**

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The local, regional, and national groups listed below have aims similar to those of CSICOP and work in cooperation with CSICOP but are independent and autonomous. They are not affiliated with CSICOP, and representatives of these groups cannot speak on behalf of CSICOP.

UNITED STATES

**Arizona.** Tucson Skeptical Society (TUSKS), Ken Morse and James McGaha, Co-chairmen, 2509 N. Campbell Ave., Suite #16, Tucson, AZ 85719.

Phoenix Skeptics, Jim Lippard, Chairman, P.O. Box 62792, Phoenix, AZ 85082-2792.

**California.** Bay Area Skeptics, Rick Moen, Secretary, 4412 Fulton, San Francisco, CA 94121-3817.

Sacramento Skeptics Society, Terry Sandbek, 4095 Bridge St., Fair Oaks, CA 95628.

San Diego Skeptics, Ernie Ernisee, Secretary, Box 17566, San Diego, CA 92117.

Southern California Skeptics, Ron Crowley, Chairman, P.O. Box 5523, Pasadena, CA 91107.

**Colorado.** Colorado Organization for a Rational Alternative to Pseudoscience (CO-RAP), Béla Scheiber, President, P.O. Box 7277, Boulder, CO 80306.

**District of Columbia, Delaware, Maryland, and Virginia.** National Capital Area Skeptics, c/o Stanley K. Bigman, 4515 Willard Ave., Apt. 2204 So., Chevy Chase, MD 20815.

**Florida.** Florida Skeptics, Hugh C. Allen, Chairman, 1365 N.E. 105 St., Miami Shores, FL 33138.

**Hawaii.** Hawaii Skeptics, Alicia Leonhard, Director, P.O. Box 1077, Haleiwa, HI 96712.

**Illinois.** Midwest Committee for Rational Inquiry, Michael Crowley, Chairman, P.O. Box 268375, Chicago, IL 60626.

**Iowa.** ISRAP, contact person, Randy Brown, P.O. Box 792, Ames, IA 50010-0792.

**Kentucky.** Kentucky Assn. of Science Educators and Skeptics (KASES), Chairman, Prof. Robert A. Baker, Dept. of Psychology, Univ. of Kentucky, Lexington, KY 40506-0044.

**Louisiana.** Mid-South Skeptics, Henry Murry, Chairman, P.O. Box 15594, Baton Rouge, LA 70895.

**Massachusetts and New England.** Skeptical Inquirers of New England (SINE), David Smith, Chairman, Museum of Comparative Zoology, Harvard University, Cambridge, MA 02138.

**Michigan.** MSU Proponents of Rational Inquiry and the Scientific Method (PRISM), Dave Marks, 221 Agriculture Hall, Michigan State Univ., East Lansing, MI 48824.

**Minnesota.** Minnesota Skeptics, Robert W. McCoy, 549 Turnpike Rd., Golden Valley, MN 55416.

St. Kloud ESP Teaching Investigation Committee (SKEPTIC), Jerry Mertens, Coordinator, Psychology Dept., St. Cloud State Univ., St. Cloud, MN 56301.

**Missouri.** Kansas City Committee for Skeptical Inquiry, Verle Muhrer, Chairman 2658 East 7th, Kansas City, MO 64124.

**New Mexico.** Rio Grande Skeptics, Mike Plaster, 1712 McRae St. Las Cruces, NM 88001.

**New York.** Finger Lakes Skeptics, Ken McCarthy, 107 Williams St., Groton, NY 13073.

New York Area Skeptics, Joel Sevebin, contact person, 160 West 96 St., New York, NY 10025.

Western New York Skeptics, Barry Karr, Chairman, 3159 Bailey Ave., Buffalo, NY 14215.

**Ohio.** South Shore Skeptics. Page Stephens, Box 5083, Cleveland, OH 44101

**Pennsylvania.** Paranormal Investigating Committee of Pittsburgh (PICP), Richard Busch, Chairman, 5841 Morrowfield Ave., #302, Pittsburgh, PA 15217.

**Texas.** Austin Society to Oppose Pseudoscience (A-STOP), Lawrence Cranberg, President, P.O. Box 3446, Austin, TX 78764.

Houston Association for Scientific Thinking (HAST), Steven Schafersman and Darrell Kachilla, P.O. Box 541314, Houston, TX 77254.

North Texas Skeptics, Ron Hastings, Chairman, P.O. Box 815845, Dallas, TX 75381-5845.

West Texas Society to Advance Rational Thought, Co-Chairmen: George Robertson, 516 N Loop 250 W #801, Midland TX 79705; Don Naylor, 404 N. Washington, Odessa, TX 79761.

**Washington.** Northwest Skeptics, Philip Haldeman and Michael R. Dennett, Co-Chairmen, T.L.P.O. Box 8234, Kirkland, WA 98034.

## Local, Regional, and National Groups (Cont'd)

**West Virginia.** Committee for Research, Education, and Science Over Nonsense (REASON), Dr. Donald Chesik, Chairperson, Dept. of Psychology, Marshall University, Huntington, WV 25701.

**Wisconsin.** Skeptics of Milwaukee, Len Shore, 3489 N. Hackett Ave., Milwaukee, WI 53211.

**AUSTRALIA.** National: Australian Skeptics, Barry Williams, Chairman, P.O. Box 575, Manly, N.S.W. 2095.
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South Australia, P.O. Box 91, Magill, S.A., 5072.
Victoria, P.O. Box 1555P, Melbourne, Vic., 3001.
West Australia, 25 Headingly Road, Kalamunda, W.A., 6076.

**BELGIUM.** Committee Para, J. Dommanget, Observatoire Royal de Belgique, Avenue Circulaire 3, B-1180 Brussels.

**CANADA.** National: James E. Alcock, Chairman, Glendon College, York Univ., 2275 Bayview Avenue, Toronto, Ontario.
Regional: British Columbia Skeptics, Barry Beyerstein, Chairman, Box 86103, Main PO, North Vancouver, BC, V7L 4J5.
Ontario Skeptics, Henry Gordon, Chairman, P.O. Box 505, Station Z, Toronto, Ontario M5N 2Z6.
Quebec Skeptics: Raymond Charlebois, Secretary, C.P. 96, Ste-Elisabeth, Quebec, J0K 2J0.

**FINLAND.** Society for the Scientific Investigation of Claims of the Paranormal, Prof. Seppo Kivinen, Dept. of Philosophy, Univ. of Helsinki, Unioninkatu 40 B, 00170 Helsinki 17.

**FRANCE.** Comité Français pour l'Etude des Phénomènes Paranormaux, Dr. Claude Benski, Secretary-General, Merlin Gerin, RGE/A 38050 Grenoble Cedex.

**GREAT BRITAIN.** British Committee, Michael J. Hutchinson, Secretary, 10 Crescent View, Loughton, Essex 1G10 4PZ.
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**INDIA.** National: Indian CSICOP, B. Premanand, Chairman, 10, Chettipalayam Rd., Podanur 641-023 Coimbatore Tamil nadu.
Regional: Bangalore, Dr. H. Narasimhaiah, President, The Bangalore Science Forum, The National College Buildings, Basavanaguidi, Bangalore-560-004.
Surat, Satyasodhak Sabha, Dr. B. A. Prikh, Convenor.

**IRELAND.** Irish Skeptics, Dr. Peter O'Hara, Convenor, P.O. Box 20, Blackrock, Dublin.

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**NEW ZEALAND.** New Zealand Skeptics, Chairman, Dr. Denis Dutton, Dept. of Fine Arts, University of Canterbury, Christchurch.

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**SPAIN.** Alternativa Racional a las Pseudosciencias (ARP), Luis Alfonso Gámez Domínguez, Secretary, c/o el Almirante A. Gaztañeta, 1-5º D. 48012 Bilbao.

**SWEDEN.** Sven Ove Hansson, Box 185, 101 22, Stockholm 1.

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# The Committee for the Scientific Investigation of Claims of the Paranormal

**Paul Kurtz**, Chairman

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## Subcommittees

**Astrology Subcommittee:** Chairman, I. W. Kelly, Dept. of Educational Psychology, University of Saskatchewan, Saskatoon, Saskatchewan S7N 0W0, Canada.

**Education Subcommittee:** Chairman, John W. Patterson, Professor of Materials Science and Engineering, 110 Engineering Annex, Iowa State University, Ames, IA 50011.

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**Legal and Consumer Protection Subcommittee:** Chairman, Mark Plummer, CSICOP, Box 229, Buffalo, NY 14215-0229.

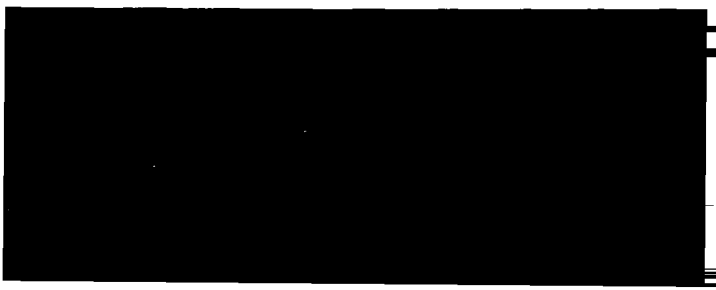
**Paranormal Health Claims Subcommittee:** Co-chairmen, William Jarvis, Professor of Health Education, Dept. of Preventive Medicine, Loma Linda University, Loma Linda, CA 93350, and Stephen Barrett, M.D., P.O. Box 1747, Allentown, PA 18105.

**Parapsychology Subcommittee:** Chairman, Ray Hyman, Psychology Dept., Univ. of Oregon, Eugene, OR 97402.

**UFO Subcommittee:** Chairman, Philip J. Klass, 404 "N" Street S.W., Washington, D.C. 20024.

# The Committee for the Scientific Investigation of Claims of the Paranormal

The Committee for the Scientific Investigation of Claims of the Paranormal attempts to encourage the critical investigation of paranormal and fringe-science claims from a responsible, scientific point of view and to disseminate factual information about the results of such inquiries to the scientific community and the public. To carry out these objectives the Committee:

- Maintains a network of people interested in critically examining claims of the paranormal.
- Prepares bibliographies of published materials that carefully examine such claims.
- Encourages and commissions research by objective and impartial inquiry in areas where it is needed.
- Convenes conferences and meetings.
- Publishes articles, monographs, and books that examine claims of the paranormal.
- Does not reject claims on a priori grounds, antecedent to inquiry, but rather examines them objectively and carefully.

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